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IN THIS ISSUE

FEATURES

32 Weathering cars for individuality
How to approach each piece of rolling stock as a unique model with its own history
by Charles Dunkerwell

38 How to use an airbrush for weathering CD
Easy techniques for making your locomotive look like the real thing
by Cyrille Grimm • Online bonus

43 Do-it-yourself graffiti
Paint markers and an airbrush make it easy to "tag" your modern rolling stock
by Matt Arndt

46 Changing times on a multi-deck UP layout
The HO-scale Genoa Yard Range & Western Pacific modern era railroading in 25 x 40 feet
by Doug Nyquist • Online bonus

54 Build the Virginian J-4 x 4 with ease CD
Pre-fit the HO-scale boxcar gets some crossbeam scenery
by David Popp

62 40 years on the Chemung Northern CD
This freelanced O-scale road is the result of careful planning
by Bob Brown

80 Trackside Photos
by Steven Otte

NEXT ISSUE

Howard Zwicky wanted to model his Long Island home town, but it wasn't served by a railroad. Howard found that with his freelanced HO-scale layout having MR

On the cover: An HO-scale diesel locomotive that associate editor Cody Grivno weathered with an airbrush leads a fresh, unweathered unit.

IN EVERY ISSUE

6 Digital MR
The latest features on our website by Dave Hanson

8 From the Editor
Easier than I thought
by Neil Sherwood

10 News & Products
Weekly railroading news
by Cody Grivno

20 Railway Post Office
Letters from our readers
by Eric Hedgfog

22 Information Desk
Model Railroading points you in railroading adventure
by Jim Hediger

24 Workshop Tips
Maximum use and care out for model railroaders
by Jim Hediger

28 Step by Step
Make your own cast resin coal loads
by David Popp

34 MRR Classic
Advanced programming for locomotive headlights
by Mike Polagnoni

72 Product Reviews CD
HO-scale Penney Broadway Limited locomotive and cars from Bachmann, Spring Mill Depot sandwich car in HO, and more
by Dana Edwards

78 Notes of Thought
Where the action is
by Tony Koester

84 Index of Advertisers and Cartoon

84 The Operators
Model railroad operations?
by Andy Sperandeo

Model Railroader web extra

Trains

APRIL 2012

VOL. 72, NO. 4 NEWS AND FEATURES

MYTHS AND LEGENDS

24

Searching for the Andrews Raiders

36
Speed and spectacle

46
Railroads and the sinking of "Titanic"

52
Who was the chief drivin' man?

60
Butch Cassidy & the Sundance Kid

66
Track 61

74
Capone rides the rails to Alcatraz

ON THE COVER The Confederate locomotive 'Texas' chases the General in a painting by Mitch Markovitz.

24 The Great Locomotive Chase
36 Smith Valley Scenery's Spot Idle
46 Rail Disasters and Myth: the "Titanic"
52 John Henry vs. the steam drill
60 Butch & Sundance mail express cars
66 Track 61 secret still stands
74 Al Capone takes the rails to Alcatraz

NEWS
8 News & Photos
11 Dan Phillips
14 Locomotive
16 Passenger
18 Fred M. Fraley
20 Technology

DEPARTMENTS
4 From the Editor
5 Railway Post Office
60 Ask Trains
62 Preservation
64 Trackside

ON THE WEB @

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FEATURES

34 Weathering techniques for garden railways
Part 1: Chalk, stains and washes, and more by Alan Blair

COVER STORY
38 The Kilnahinny Mountain Railroad
A realistic railroad by a first-time builder by Simon Rigatoni

48 Making characters
Modelling figures with sculpey even hardening clay: Part 1 by Eric Schade

52 The Winter Valley Regional Railway
The construction of 3D scenic a first builder by David G. Hinton

- Weathering basics (1)
- Scenic Craft Consultation (1)
- Excellent reviews (1)
- Weather on a budget (1)
- 10 great places to run (1)
- 1:1 Modern indoor railway (1)
- Idea factory indoor (1)

DEPARTMENTS

4 From the Editor
6 News & views
14 Letters
19 Garden railway basics
24 Growing your railway
30 Plant portraits
40 Workshop
42 Online letters
46 Reading lamps
51 Events
72 Product reviews
84 N G scale Scenes

ONLINE BONUS

- Plans for a 1:29 scale gatekeeper's tower
- Simple weathering techniques for rolling stock
- Small-scale zinc article

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JIM WROBEL

A business that's never boring

The 150th anniversary of the Great Locomotive Chase and the centennial of the *Titanic*'s sinking couldn't pass without TRAINS taking a fresh look at the famous chase between the *Texas* and the *General*, and reporting on railroading's connection to the epic sea disaster.

[illegible] two stories on this special "stories and legends" issue represent but a fraction of the seeming infinity of fascinating railroading history and lore to be found in the pages of TRAINS magazine. Within these 100 pages, we've tried to encompass the fortunes and misfortunes of railroads, the heroics and struggles, incredible disasters, major triumphs, and just plain weirdness.

I hope that anyone who has been in railroading for six months, a year, or even a few years, and feels you've learned all you need to know, will discover something new in this issue. I've been in railroading for 30 years, and I've learned something from every story in this issue.

And beyond history is the story of railroading today, the struggle of men and machine to operate safely and the business dilemma of those who choose to operate and to maintain railroads in spite of huge challenges. We hope you will find this special issue entertaining, useful, informative, and an invaluable addition to your railroad library.

TRAINS GOES DIGITAL

[illegible] as we're discussing railroading's digital future, let's take a look at the future here at TRAINS magazine. Kalmbach Publishing Co. is now offering digital subscriptions to the most popular, beautiful, railroad magazine in the world.

We will continue to offer the printed magazine, but now you can read TRAINS on your laptop, tablet, or personal computer at home. Take a look, just into the field, or read it on your living room. It's the same contents of the print, plus all of the Web links and the like, but it's in a format you can buy digital subscriptions as well as single copies, and for those who want both print and digital, we also offer that option.

So, welcome to the future of railroad books in the digital age. It's here in TRAINS magazine!

Illinois Central's Chicago suburban trains, like this one at Homewood, Ill., in August 1957, were a familiar sight to commuters. Jim Wrobel photo

Trains

THE GP38-2. IT HAS EVERY DETAIL YOU WOULD ADD (IF YOU HAD TIME.)

HORIZON

MRH News Desk: The Latest Model Railroad News, Products, and Events

March 2012

About our News & Events Editor

Richard Ruhe writes our news column under the byline of The Old Railroader. He has been writing about the model railroad trade for various hobby publications since the 1980s.

He enjoys building models, particularly steamers, some of which appeared in the June 2008 issue of Model Railroader magazine.

Reader Feedback

Fantasy Schemes Become a Reality

To celebrate the 50th anniversary of the merger of Norfolk & Western and Southern Railway, Norfolk Southern will honor its heritage by creating a fleet of 10 locomotives decorated in schemes reminiscent of its 19 predecessor railroads. In what could trigger a healthy boom in the sale of uniquely decorated model locomotives, NS will (1) SD70M-2 units on order from EMD, and eight ES44AC locos coming from GE, will be decorated for Central of Georgia, Connecticut River, Cincinnati Northern, Lehigh Valley, New Haven, New York Central, Nickel Plate Road, Norfolk & Western, Penn Central, Pennsylvania, Pittsburgh & Akron, Virginian, Reading, Savannah & Atlanta, Southern, Tennessee, Alabama & Georgia, Virginian, and Wabash. Nothing that the Union Pacific Railroad used the concept and colors and created new interpretations on the old paint schemes in its heritage program, NS officials said they plan to recreate the original liveries as accurately as possible...

Amherst Show Sets New Record

The Amherst Railway Society reports that 12,102 model railroad fans attended their annual show held in late January at West Springfield, Massachusetts. In addition, some 1,000 volunteer workers, security people, developers, vendors, and exhibit personnel brought the total to 13,102 ...

Armand Awards $10,000 to RRHS

In a related story, the Amherst Railway Society announced that the 2012 Founders Award for Preservation was given to the Railroad Museum of New England (RRNE) upon the award in recognition of the locomotive work currently in progress on Boston & Maine 4-6-0 Camel locomotive #1702. The $10,000 award was presented at the Society's annual model railroad hobby show held at West Springfield, Massachusetts...

Scale Mission news

Scott Mission, popular head of the Scotty Mission Model Railroad product show and creator of a line of structure kits and DVDs, has accepted a position outside the model railroad industry. Mission said he has promised his new employers he would not moonlight, which means he will no longer be making or selling kits or DVDs. However, he said, the Scotty Mission Model Railroad product will continue. Although he will not be creating any new products, Mission said he has a few of his recently announced Rebel Coal Company kits (see page 123, MRH February 2012 for details). For the most future Rebel Coal Company and Scotty's DVDs can be ordered from [email homeowners.com].

Walthers Broadway Limited at Strasburg RMM

Walthers has donated their complete HO scale Broadway Limited passenger motive to the Railroad Museum of Pennsylvania in Strasburg, Pennsylvania. The consist of such train includes three E8 locomotives and 13 cars. One more is already operating on the large layout in the museum lobby. The second Broadway consist will soon be operating on the "Pennsylvania Limited Express" layout in the museum's interactive education center. The museum's prototype collection includes a Streamliner Limited locomotive and a lounge car that is currently undergoing restoration ...

Walthers Exec Watcher Retires

Walthers senior executive, Art Watcher, has retired after 44 years of service with the Milwaukee-based manufacturer/distributor. Over the years, Bill established a trusted relationship with the owners and employees of hundreds of model railroad manufacturers whose products are distributed by Walthers. Bill was instrumental in the development of many important Walthers brand products and played a key role in several major acquisitions including Train Miniature and Life-Like. He

will continue to act as a consult for his long time employer while building (re) models and working on his live steam locomotive.

Container Lost and Found

Rapido Trains was anticipating the arrival of a container of railroad models on what seemed like a normal day. That was until they received word that the ship en route from China had 28 containers, including a second container of Rapido models, lost overboard during a severe storm at sea. Other containers were crushed but remained on board their ship. Rapido's container, also crushed with its contents smashed, was one of the 28 at the bottom of the sea! While Rapido owners Jason Shron and his team waited anxiously for an official report, an acquaintance with a sick sense of humor sent a message that said, "Rapido's container was off loaded on January 26th. Unfortunately, the ship didn't arrive at Vancouver until January 23rd". By the end of January official word was received that the container had not been lost at sea but the condition of its contents was unknown. The plastic continued to build as that sealed container made an eight day rail trip across Canada to Toronto, where it would be opened and inspected by marine insurance agents and officials of Canadian Customs. Finally, we're glad to report everything was found to be intact, and as you read this, Rapido's latest are on their way to customers and dealers all across North America.

Here's a look at some new products...

NEW PRODUCTS FOR ALL SCALES

Micro Mark (micromark.com) has a new 'scenery cement' that is specifically formulated to hold textured surface materials such as turf, ballast, and grass. The colorless, water-based latex glue remains workable (flexible) after application, which the manufacturer states will help decrease track noise when used to secure ballast. It is also recommended for static grass applications. Micro Mark's item #82569 is priced at $7.95 for a 16 oz. bottle.

Kadee Quality Products (kadee.com) has a recently released #5 scale coupler. The unique look is priced at $4.00 each and is available in one color, yellow, blue or red.

O SCALE PRODUCT NEWS

Atlas-O (atlas-o.com) has scheduled another production run of its popular two-window caboose with delivery planned for the 2nd quarter of this year. The extended vision body style is based on a Southern Pacific C-30-6 caboose built in 1951. Features of the Atlas-O Trainman™ series model include a detailed smoke jack, brake wheel and brake ring, interior lighting with chassis mounted on/off switch, detailed underframe, solid bearing caboose trucks, and a see-through running board. The model to run model will be available for 3-rail operation at $64.95 or for 2-rail operation with 33" scale wheels and body-mounted scale couplers at $69.95.

Franklin Model Works (franklinmodelworks.com) is adding O scale 28' non-operating wheels to be used on a scenery item. The cast plastic wheels accurately represent an American Car & Foundry Westinghouse pattern shallow web wheel with a 6" diameter and hole. A package of eight wheels is priced at $6.00.

Kadee Quality Products (kadee.com) introduced a new O scale Type 4 coupler at the recent Amherst Train Show. The new generation of all-metal couplers has scale, a hidden knuckle spring and a more prototypically detailed coupler head. Six models are available for various applications including short, medium, and

long center-set knobs, and even set chunks. They are priced at $9.50 for a package of two pair. The new couplers use the same mounting system and draft gear boxes as Kadee's original Z-scale couplers.

S SCALE PRODUCT NEWS

Rio Grande Models (rio-grandemodels.com) has a white-metal kit for a Type D4 diesel crawler/loader to build by Caterpillar from 1937 to 1957. Upon 4,613 units for $30.00 each, the HO-scale version ($15.00) is available at $21.00.

HO SCALE PRODUCT NEWS

New HO-scale kit releases this month from **Accurail** (accurail.com) include a Wisconsin & Southern 4427 triple-hop covered hopper at $25.98, and a 50' steel boxcar decorated for Soo Line with a red plug door at $34.98. Special packages include kits for a Lehigh & New England offset-side hopper car at $24.98 each, or a three-pack with different car numbers at $62.98, and a Union Pacific 4427 triple-bay covered hopper car at $31.98 each or in a three-pack with different numbers at $94.98. Also a two-pack of ribbed 40' wood-sided cars at $28.98.

Broadway Limited Models (broadwaylimitedmodels.com) is selling HO-scale operating shipping signs as an upgrade for Kadee pier-ranger cars. The shipping signs are used to interface operation on cranes. They are available in either gray or black at $4.95 per pair or as a six-pack at $25.95.

Late word from **Athearn** (athearn.com) reveals the company's delivery schedule for October includes Genesis series SMD passenger F units decorated for Chicago, Burlington & Quincy. List pricing for the F3A is $169.98 for DC models and $260.98 for fully loaded DCC units. Matched F3A/F3B sets with both units powered will be $349.98 for DC models, and $489.98 with power choices and DCC decoders in both units. Athearn's Genesis GP9 will be arriving in Colorado decorated for Chesapeake & Ohio (dark blue body with yellow lettering), Rock Island (all maroon body and maroon body with a yellow nose), Rio Grande (black with orange zebra-stripes), and Seaboard Coast Line (black with yellow stripe, also a "Putting Pride to Work" version). A Genesis GP15-1 decorated for Conrail is also in the October delivery schedule, along with a Canton-Dark ES58 class C-30-7. Any wireless collection.

Athearn is showing seven models now for its all-new HO scale Genesis series GP38-2 diesel locomotive introduced at the recent Baltimore Train Show.

The initial production run will offer four road names on four different models. Road-specific details on the high-nose Southern Railway GP38-2 (far left) include split radiator grilles, widely spaced fan housings, unique walkway lights, and cab bars on fillers for the dynamic brakes (when used). Road names like long 68" size of the Southern Pacific and replicating CNW's late production runs, along with distinctive switcher pilot-width, recess stacks, L-shaped windows, and a special lit light package. The blue Milwaukee Road unit has a short 81" nose, extra jacking pads, closely spaced 48" radiator fans, chicken-wire radiator grilles, and spark arresters, in addition to the wide-nose safety cab. The Canadian National GP38-2 (far right) has dual crew gates, and operating "semaphore-style" short lights. Delivery of the first production run is expected in late November. Candidates being considered for the second run include Canadian Pacific, Boston & Maine, Rock Island, and Union Pacific.

Atlas Model Railroad Company [redacted] has released a new bay offset side hopper car with flat ends and new road names and numbers. The Atlas Trainman® series HO scale open-top and hopper features 33-inch scale wire-spoked metal wheels, detailed brake gear, and body-mounted Accumate® knuckle couplers. New numbers will be issued for Detroit & Mackinac, Norfolk & Western, and Reading, as seen here. New road names include Canadian Pacific, Erie Lackawanna, Elgin, Joliet & Eastern, LIC/NYNH & Hudson (CNW reporting), Peoria & Eastern, Richmond, Fredericksburg & Potomac, and Wheeling & Lake Erie. The ready-to-run cars have an MSRP of $17.95. An undecorated version is also available at $10.95 each.

Blackstone Models [redacted] has just completed the latest release of its HO&T shady-to-run 0-8-0 (<ruby>0-8-0<rt>Ten-Wheeler</rt></ruby>) switcher. Conversations with Blackstone officials at recent shows indicate a H-10 heavy Mikado is in the planning stages. The company is currently taking advance reservations for another release of its H7LA and CKP narrow frame tank cars. Reservations are also being booked for an Ever Broad Top steel triple bay open hopper car. Both the tank car and the hopper will be available weathered or with a new, pristine finish.

Bowser [redacted] is banking stellar orders now for a late 2012 production run of its Executive series Baldwin 2-8-4 (<ruby>2-8-4<rt>Berkshire</rt></ruby>) diesel switcher. Baldwin Locomotive Works produced the 1000 hp prototype between 1948 and 1951. Bowser's HO scale ready-to-run model features separate air hoses, scholarship wheels, grab irons, uncoupling bars, window glass, Accumate couplers, and an operating headlight. The DS-4-4-1000 is available for standard DC operation (with eight-pin DCC ready plug) at an MSRP of $179.95, and with a SoundTrax Tsunami™ digital sound decoder at $249.95. Road names in this run are CP (traditional maroon and grey), CP Rail (Flat Black scheme), Western Maryland (Fireball), Santa Fe (Zebra stripe), NJSI (red and white), Erie Lackawanna (maroon and grey), MRR, Norfolk Southern (original red with yellow band), and Chicago Great Western.

A special run of Bowser C-420W locomotives uniquely decorated for Canadian Pacific, Ogle Airport & Central News Guide, and two Canadian National schemes, is available exclusively from Otter Valley Railroad [redacted], an e-commerce dealer in Ontario.

Broadway Limited Imports [redacted] has scheduled a late arrival date for HO scale models of Pennsylvania Railroad class M1a/M1b K-4 Mountain-type diesel locomotives, introduced in 1940. The M1a locomotives

came equipped with large (six) 2100 T1 tenders. At the end of 1945, some of the original locomotives were modified for increased boiler pressure and the addition of circulators to the firebox. These became the M1b versions.

ALL HO scale models comes with the Paragon2 Sound and Control System with integral DCC decoder, and simultaneous light operation with golden white LED head and rear light. The locomotive has a die-cast metal chassis with ABS plastic superstructure, all-driven electrical pickup, traction tires, metal couplers compatible with Kadee®, separately-applied handrails, builders, whistle, bell, operating cab roof vents, and factory-installed engineer and fireman. The HO scale-ready-to-run models have an MSRP of $399.95.

Carnegie Models [carnegiemodels.com] has introduced an HO scale coiled steel car. The prototype is used to transport ethylene, which must be kept cool at all times. Details include the large reinforcing rings near

the ends of the car, and the cabinet at the side that houses control and monitoring equipment used on the prototype to fill and off-load the distinctive tank car. The ten-unit list $24.98 and includes decals and photo-illustrated instructions. This is a body-mount only. Detailing parts such as hand grabs, ladders, trucks, couplers are not included.

ExactRail [exactrail.com] has released an HO scale Trailmaster-furnished 1000 boxcar. A preproduction sample of the new model was shown last September at the Western Prototype Modelers meet in Las Vegas, Nevada. Between 1911 and 1961, when Pullman-Standard got out of the freight car business – almost 1,000 of the full-sized 1000s were built, with many of them still operating in regular service. ExactRail's Hydrocore series-molded features were grab irons, wire uncoupling bars, wire brake rods, separately applied door tracks, Kadee® #58 couplers, and the model manufacturer's unique narrow draft box with shank wedge, ribbed casting, and full rivet and bolt detail. Road names on the initial production run will be St. Route Rock, BNR Burger & Amerotrack, NMW Minneapolis, Northfield & Southern Railway, Milwaukee Road, SAN Cumberville, and TSR Texas American Railway. Depending on the specific practice of the prototype road, the ready-to-run models will come with either 70-ton Barber S-2, or 70-ton ASF Ride Control trucks. An undecorated version, also available from ExactRail's 1,048 run, a list price of $28.95.

Ice Scale Models [icescalemodels.com] designed Mountain & Goathorn Smelters as a flat background structure with a very small one footprint – in this case just 3" deep. The 12" wide tower with its mansard roof and lean-out corrugated iron roofing tops out at 8" tall. Additional features of the HO scale craftsman-style kit include "niche windows, corrugated and rolled asphalt roofing, laser-cut walls, metal detail parts, and custom signage. Item #0100 is priced at $80.95.

Intermountain Railway [intermountain-railway.com] has scheduled a September/October arrival date for the second release of its 89' 3k Level auto rack car. The HO scale ready-to-run car features etched and formed metal sandwich side panels, operating end doors, metal wheelsets, and Kadee® coupler pilots. Racks and floor with matching road numbers include DN, Soo Line, GTW, and CP Rail. Non-matching rack road numbers assembled on TTOX flats include Chicago North Western, C&NW/UP, TTX, and UTLX/GP. The model has an MSRP of $69.95.

This month **Scale Quality Products** [scalequality.com] will release a 54' PS-1 plate boxcar decorated for Rock Island. Like the prototype PS-1, the HO scale ready-to-run model has a 10' Youngstown door and a cushion underframe. A resin series 4 prototype built in 1969 without a running board. Kadee's model has an MSRP of $45.95.

and Quilford Rail System. The HO scale ready-to-run locomotives are priced at $299.99 each.

The Lionel HO scale ore reduced by **Walt and Mary Designs** corkscrewcreek.com/walt-mary in Country Line Liquors. The corrugated tin A-frame structure has been rust-washed, aged and worn plangles, a sheet of color signs, and a special sheet to create fine-tooth signs. The finished structure has a footprint of 3" wide x 3.75" deep. [illegible] is available at $30.00 each.

MTH Trains [mthtrains.com] new HO scale GP9 B-B diesel locomotive features a long list of separate details that will be applied to the ABS plastic body including windshield wipers, metal see-through body grilles, lift rings, metal grab irons and handrails, metal horn, see-through roofing fan housings, and brake cylinders, air pipes, and swing hangers on Blomberg trucks. Electrical features include directional headlights, lighted number boards, remotely controlled couplers compatible with Kadee® magnetic couplers, and decoders for DCC and MTH DCS Digital Command System with sounds, selected from a previous GP35. Road names released and scheduled for future release include [illegible]

Q Connection [qconnection.biz] is selling a second run of an HO scale DATX Pressure Side Wheelabrator Hopper. The kit comes in two versions, CSXQ or SAL. Designed and produced by Wright Trak Railroad Models, the kits consist of a one-piece

cast resin tank body, two end caps, stainless steel photo etchings, Athearn 4-4 Ride Control roller bearing trucks, Kadee® #58 couplers, and Hi Tech Details® brake hoses. Instructions are specific to replicate within the C&BQ in 1941 period. The cars are priced at $66.98 each. Connection offers three cars on decals created by Microscale specifically for the refrigerators listed. Decals are available for C&BQ and WP, SP, and SCL, and NRC, CN and Oregon, at $7.98 per set.

Rapido Trains (rapidotrains.com) has added a New Haven smoker coach to its line-up of Osgood Bradley cars. New Haven's coaches (639) coaches had a stairs also smoking section at one end of the car. To help clear the air, a special exhaust system with a large roof vent was installed above the smoker's lounge. Rapido's ready-to-run HO scale version will have full interior details as well as the correct roof hatch and vent. Additional features include full underbody detail, separate grab irons, authentic paint and lettering, and Rapido's Sure-Power lighting system. The cars have an MSRP of $29.95. The deadline for reservations is June 16, with delivery anticipated this fall.

In other news, Rapido reports that it has scheduled a production run of 20 arch-roof coaches decorated for Bangor & Aroostook (gray and blue without skirts), Long Island (white and blue 1958 without skirts), New Central (green with no skirts) and as seen here, Long Island (gray and orange "Sterling Star" with no skirts). No firm delivery date yet, but another production run of 10 window coaches with new numbers has been scheduled for both New Haven and Boston & Maine. Advance reservations are a requirement since Rapido only produces runs to meet reserved quantities. The deadline for reservations is June 15. The current run of Osgood-Bradley coaches for Long Island, MC, and B&M are well into the production cycle and should be available later this month or in early April.

Red Caboose 57' mechanical refrigerator cars will be released this fall decorated for Tropicana. Twelve different paint schemes on both white and orange boxes will be produced with a total of 18 car numbers. The ready-to-run HO scale cars will come with metal wheelsets, and Kadee® couplers. The models will have an MSRP of $34.95. Additional details are available from Interstate Railway Company (interstaterailway.com) which is responsible for marketing Red Caboose brand products.

ScenicRing (scenicring.com) has new one piece photo backdrops (Scenic Roll Carton Insert and Material) to create unique backdrops for layouts and dioramas. Twelve scenes 72" long by 16.5" high are available. The edge of the backdrops are graphically compatible with each other, which allows them to be positioned in a limitless combination. All are dated to prototype (by 1950). Backdrop structures in the scenes are HO scale, making them suitable for use as industrial settings. ScenicRing also has one piece backdrops designed for HO scale urban, rural, and more rural waterfront (views of the 1930s). Visit the website for more details including pricing and the location of local retail outlets.

Sunshine Models has released cast urethane kits for three HO scale narrow gauge 36' boxcars. The original 500 prototypes were built by Pullman, with the first 100 being painted Pullman green with Dulux gold lettering and the AT&SF snug and longer cars the Dulux gold lettering and the AT&SF snug and longer cars the colors (photos). They were equipped with the infamous Allied Full Cushion trucks that were later determined to be unsafe.

The remaining 500 cars went into regular freight service. They were painted Santa Fe standard mineral brown, and rode on Barber S-2 trucks. In

available for AT&F, CNW, CSX, and UP (building American). The Milestone series models (items 916-7100 through 916-7108) will have an MSRP of $21.98 each.

Walthers says that its next run of HO scale 50' Gunderson flat cars will be available in October. The models will be decorated for ACL, CNW, Charlottesville Industrial Railroad, Missouri Pacific, and Southern (items 910-40000 through 910-40008). The MSRP will be $29.98 each.

Orders are being booked now for Walthers™ 50' AAR boxcars with rare offset Youngstown corrugated doors scheduled for release in November. Additional features of the HO scale ready-to-run models include 5/5 Dreadnought ends, and separate grab irons. The cars (item 930-10000 through 930-10008) will have an MSRP of $26.98 each and will be available decorated for Santa Fe, Kansas City Southern, Model Pipe Road, and Southern Pacific.

The most productive run of Walthers™ (MG) GP15/1500 diesel locomotives is scheduled to arrive in late April. The ready-to-run locomotives have been upgraded with more than 60 separately applied detail items, plus a package of optional parts the consumer may apply. The models have constant and directional headlights, cab interior with crew, and see-through running boards.

The HO scale models are based on Phase 3 prototypes as they appeared from approximately 1957 to the early 1960s. Road-specific Phase 3 details include battery boxes with their louvers, two MP logo on each side of the hood, dual-lens headlights, large fuel tank, Leslie S-3 horn (three-chimney Kenworth), square-trunk journal boxes, trailtruck pilots, and plain grab irons. The run includes dozen ex-run models decorated for Baltimore & Ohio, Burlington Northern, Milwaukee Road, and Pennsylvania Railroad in both standard DC as a list price of $169.98, and sound-equipped DCC at $219.98.

New HO scale Cornerstone™ structure kits starting from Walthers include this impressive 11-story commuter hotel. It will be available next month at a list price of $99.98. The model is 15.875" high and has a footprint of 4.437" x 4.625". Multiple kits can be combined for a taller, wider, or longer structure.

Also coming next month is a Cornerstone™ kit for a brick, single-story industry (office building at 319.98 each, and a brick two-story, two-bay Fire Station kit with a list price of $34.98. It comes with decals for several fire companies and can be built with or without a hose-drying tower. Modern glass doors as well as vintage wood-equipment doors are included. The assembled fire station occupies a 6.875" x 3.3" space. The tower is 8.5" tall.

Walthers has cancelled production on two groups of HO scale freight cars. Insufficient dealer reservations was cited for canceling further work on Walthers™ 53' AAR dryp and mill gondola (920-10101 series), Walthers/Pullman™ 50' Gunderson hi-cube paper service boxcar (920-101XX series), and Walthers Platinum Line™ 54' PS2-CD 4427 covered hopper (910-41271 series). Despite a history of strong sales, production difficulties prompted the cancellation of Walthers 50' insulated exterior post boxcar (933-40010 series), and 50' insulated smooth side boxcar (930-1000 series).

Wiseman Model Services (wisemanmodelservices.com) continues to organize and catalog the thousands of detail parts and accessory items it has acquired from businesses that have closed in recent years. Among the product lines now viewable on their website are Walker vintage vehicles, National Motor Company, Black Shop Grass detail parts in O, On3, and On30, N Scale of Nevada, SI Scale Structures, and Reliable Engineering structures.

N SCALE PRODUCT NEWS

Atlas Model Railroad Company (atlasrr.com) is preparing another release in its Trainman™ series N scale ACF 3560 covered hopper for release in the second quarter of 2013. The three-compartment 4077 3560 Center Flow covered hopper was designed to handle heavy, high-density, dry bulk commodities such as salt, fertilizer, starch, gypsite, and clay. The dimensions of the 100-ton-plus hopper were kept within a Plate B specification, the smallest modern plate-size given. The ready-to-run N scale model will have an MSRP of $34.95, and will be available decorated for Mentor Salt, Chessie System, CSX, Cure Products, Pakt, and Watkins Salt. An undecorated model will also be offered at $31.95.

KMX Models (kmxmodels.com) has completed another release of its N scale Norfolk Southern class C-819 "hopdoor cars. The ready-to-run model features an etched metal brake platform, 100-ton trucks, and knuckle couplers. Twelve road numbers are offered with the lettering on each car showing load weight, light weight, and reload date specific to each road number.

Eastern Seaboard Models (yyyy.yyyy) will soon release a model of a Pennsylvania Railroad X2 class X34 exterior post boxcar. The N scale model replicates the more than 2,500 cars rostered by PRR. The body and underframe of the X34 model are injection molded plastic, with etched brass running board, brake platform, and end platform. The ready-to-run model comes with Kadee #58 N-scale Ride Control roller bearing trucks and Micro-Trains® #8010 knuckle couplers. The model will be available in three configurations, with each type representing a distinct era in the life of the X34.

Here's a look at two pre-production samples of N scale Bowser Brands' 6-axle cut steam and late-steam commuter cars coming soon from **Kato**.

USA [illegible] The top photo shows a Kingsman Railway Express gallery to which cab-coach that will have an MSRP of about [illegible]. The coach in the lower photo will be for about [illegible]. Production quantities are expected to be available early this month. A Virginia Railway Express starter set with an MP36PH locomotive, two bi-level coaches, and one bi-level cab coach is expected soon at an estimated MSRP of [illegible] to [illegible].

Micro-Trains [illegible] is selling a Missouri Pacific two-bay hopper/flow covered hopper. The car has round roof hatches and is lettered for MP with a red, white, and blue shield of the Union Pacific Railroad which took over the MP in 1982. The N scale model to run car has an MSRP of $21.50.

Also new from Micro-Trains is this 50' 1-3/8 side-braces decorated in Soo Line's [illegible] era paint scheme. The prototype had 10' plug doors and was built without a running board. The ready-to-run N scale model has an MSRP of [illegible].

April month, **Bi-level International** [illegible] will introduce a new bi-fol an N scale freight hood with a slanted back and covered loading platform. The assembled building has a footprint of 10.875" x 3". The injection molded plastic kit is priced at [illegible].

Rail Classics's 17' mechanical refrigerator cars will be released this fall decorated for Tropicana. Twelve different paint schemes on both white and orange bodies will be produced with a total of 18 car numbers. The ready-to-run N scale cars will have Micro-Trains® trucks and couplers. The Tropicana cars will have an MSRP of $26.95. Additional details are available from **InterMountain Railway Company** [illegible] which is responsible for marketing Rail Classics brand products.

Walthers [illegible] seventy-to-begin delivery later this month on a Pro-ton™ EMD GP60 diesel locomotive. The N scale model has a die-cast metal split-frame chassis, all-wheel drive and electrical pickup, and constant-lamp halo headlight. The model operates on standard 9V and a DCC ready with a Walthers Cog-It® circuit board. The locomotive comes equipped with Micro-Trains® knuckle couplers. Road names available on the ready-to-run model will be [illegible] Norfolk Southern, Union Pacific, and BNSF (Santa Fe yellow and bonnet patch shown). An undecorated version is also in the mix. The locomotive [illegible] from $69.[illegible] has an MSRP of $99.98 each.

Also scheduled for arrival from Walthers late this month is a new group of Proto™ MP15 (MLD) diesel locomotives. The electrical and mechanical features of the N scale model are the same as the GP60 (above) with the exception that the MP15 comes with Accumate® knuckle couplers. Road names include C&NW, Norfolk Southern, Union Pac, and the classic Milwaukee Road scheme shown here. The ready-to-run model [illegible] has an MSRP of $99.98 each.

Wheels of Time (wheelsoftime.com) is calling on N scale rail fanners' history wonga's deep insulation passenger truck with on 11' wheel base at 111.85 a pair. The model truck features 36" metal wheelsets, adjustable draft gear, a center-mounted bolster and Micro Trains® couplers.

NEW DECALS, SIGNS AND FINISHING PRODUCTS

Microscale Industries (microscale.com) has released eight new decal sets that cover the life of Amtrak locomotives. If this sounds familiar, it's because the decals were announced last summer, but due to a finishing issue Microscale was not permitted to distribute the Anniversary set until now. Set #230 covers the early Phase I (1971-1973) E, F, SDP40F and P42 locomotives. Set #231 is for the late Phase II SDP40F, P40DH, and P42 locomotives. Set #232 is for the Phase III (1981-1992) P40PH Anniversary locomotives. Set #62 covers the Phase IV (1993-1996) HSS1H, HSS, SDP40F, and P42 locomotives. The lettering sets are priced at $3.75 for N scale (add 50 as a prefix to the part number), and $7.00 for HO sets (add 51 as a prefix).

Also available now from Microscale are decals for Santa Fe Super Chief stream-line passenger cars, Santa Fe 40' reefers with red ventilator lettering, Union Pacific fossil diesel with large road numbers on the cab sides, Norfolk & Western white caboose lettering, Illinois Central hood diesels from 1980 forward, VIA Rail Canada passenger cars, VIA Rail Canada passenger car stripes, Pennsylvania Railroad 1-stripe schemes in gold for diesels and cab electrics, Norfolk Southern Dash 8-40C, and Dash 8-40CW diesel locomotives, and Rock Island (CRIP) Rocket joint passenger cars. Coming soon are new decals for Tropicana reefers.

Jerry Glow (jerryglow.com/) has released a new HO scale decal lettering set for an SP F3? A/B locos in oxblood with "Southern Pacific" spelled out, plus new decals for a Columbia, Wenatchee & Leavens Railroad 10' 6" reefer. Both sets are $6.00 each. New decal sets, at $5.50 each, are available now for wood refrigerator cars Klinger & Company - NYLA (7 car, 4 Kalin's Specialty 1910 17 car, and a Kalin's 40' car.

Great Decals (greatdecals.com) has HO decals for an Atlantic Coast Line flat car at $5.00 each postpaid. The white lettering set provides material for decorating one model with road name, safety stripes, data and lincoln data, dimensional and capacity data, and side-reporting marks.

Blueyed Hammer Shops (hammershops.com/N24.html) has new decal sets for lettering HO scale Baltimore & Ohio Class N14 wagon-top twin-bay covered hopper cars. The "early" set is priced at $7.00 each and has sufficient material for lettering two pre-1923 era cars. The "late" set is priced at $6.00 and will letter six cars of the post-1914 period. Both decal sets include repack and reweigh data for locations throughout the B&O system. Note that HO scale resin kits for B&O/Clyde N14 hopper cars are available from Funaro & Camerlengo (funaroh.com). SF

Disclaimer

The products mentioned in this newsletter have not been tested by Model Railroad Hobbyist and we cannot vouch for their performance. Please contact the manufacturer directly for more information. Model Railroad Hobbyist does not endorse or recommend any of the products mentioned in this newsletter.

Actually sorted at press time...

Bull Yard Models, an importer and supplier of painstakingly accurate cast resin kits for the scale railfan, has abandoned operations effective March 1, 2013. The surprise announcement came from Kane Fraser, founder of the company and its lone employee. Fraser cited unsatisfactory investment returns as the necessity of abandoning the good ship and cast resin kits.

Fraser said he was burned out from the demands of running the one-man business in addition to doing all the casting. Fraser created his own masters and designed the various cast components in his kits, many of which were etched by Photo Model Products. Fraser also designed the artwork for the extensive selection of decals used in his kits. Printing was contracted to Bold Graphics, explaining that he no longer enjoyed the repetitive process of manufacturing. Fraser said he felt it was necessary to stop production rather than allowing the quality of Bull Yard kits to be compromised, noting that company is a possibility but at this point Fraser said he has not had time to give it serious consideration.

In a final statement, Fraser said orders already accepted by May 31st, and most orders postmarked on or before February 28th, will be honored. After all orders are hand-have been fulfilled, Fraser plans to liquidate any remaining inventory, including decals, on eBay.

Send us your product announcements

If you are mailing announcements with product announcements, you CAN SEND and e-mail announcements to us.

You may not and the suggestions, such conditions to apply, to get our issues and all it's new media and also [illegible]

Bridges & structures

C. M. N. Designs, [illegible] Ayrshire [illegible], Scotland [illegible], has a new model in their light duty lockdog line. The Pipits is a deep-and-shallow lattice with a detailed roof and wood-only deck. Each building is hand-crafted, glazed, and is finished as pictured. It can be left outside without failing. The structure is available in 1:20.3, 1:22.5, and 1:29 scales; weights, Prices, $[illegible] + shipping. E-mail, secure shopping cart, Website: www.cmndesigns.com

Tuscale Food Emporium Railroad Products, [illegible] Arbor Avenue, [illegible], MN [illegible], is offering a 4-color Lowly Covered Bridge Kit in 1:24 scale. It has 4,200" of premium Masonite and cedar battens in clapboard, ready to cut to length and assemble. The kit, which can be assembled with basic hand tools, includes laser-cut parts, full-color instructions, and prototype photos. Price, $125.99, plus s/h, only $12.99. Website: www.gilt.com

[illegible] Enterprises, PO Box [illegible],

Cow Creek, AZ [illegible], is offering a 1:24 scale water complex consisting of three water buildings and two stationary working overhead shafts. The water-building processing station and storage facility [illegible] are constructed of ¼" cedar, with weather-resistant roofs and molded plastic windows. Overhead shafts are available in custom lengths as needed, and may be mounted to floors, walls, or tops of water buildings, allowing for flexible arrangements. The set comes fully painted and ready for installation. Price, $[illegible]. Visit Website: www.greenbuildings.com

A Cowgirl With Paint, in England has a new line of sculptural building items based on American Wild West items at approximately 1:24 scale. There are cans to store with a dozen faux color. Currently there are three different boxes in the range which can be used to make a storage area. Somebody and several kits are also available. Prices are generally around £[illegible] each. E-mail, [illegible], Website: [illegible]

Accessories & details

J. S. Woodcrafts, [illegible] Lowell, [illegible], offers a [illegible] made entirely of [illegible]. Prices [illegible]

broken, a steam engine, and a rock crusher. These are available individually, fully assembled, or as kit items. Further to offered for the trailer and a variety is available for the steam engine, allowing it to operate. The scale is approximately 1:24 visual for for a CD or visit the website. www.groundcraft.co

[illegible] Construction Models, [illegible] [illegible] Hollywood, Pl., Rosemary, GW [illegible], [illegible] [illegible]

Truck Type Tractor with Shredder in 1:24 scale. The model includes real, [illegible] linked nicely with accessories, movable blade, [illegible], tub steering, accurate castings, opening engine cover with a fully detailed engine, and an accurate pistol. Also other options [illegible]. The cab is all and shows the [illegible] interior trim. Price, $[illegible] ... [illegible] Website: www.[illegible].com

Track products

[illegible] Systemtechnik GmbH, [illegible], [illegible], Germany, a new offering named garage [illegible]. The company has also released a new catalog for 2012. See their website for complete details: [illegible]

Electronics & software

[illegible] Control Systems (M) Sdn. Bhd., [illegible], [illegible], Selangor, [illegible], has announced the availability of its new

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Watts

plug and play R/C controller to all large scale model trains that are fitted with the standard PnP socket found in Bachmann Spectrum and some Aristo-Craft equipment. The ITRC's PnP is designed to run more than one motor, does not 3.3 GHz digital proportional radio and will operate on constant track voltage, batteries or both. It is rated at three amps and up to 20V. No soldering is needed. The unit provides full digital proportional speed control and has four sound triggers. Two sound options are available for mechanical noise control as well. Price: $429.95 WITH SOUND; speed controller-only is $349 each. E-mail: sales@itrc.com. Website: www.itrc.com.

Model Railroad Corporation, 97 Newfield Ave., Edison, NJ 08837, has a new DCC controller for large scale trains. The Prodigy Pro Elite offers in excess of controlled power and features a metal cabinet, circuits with power meter, load 10 A (2 run, total, 20 SOUND functions, operation of up to 99 locos/MUs at one time, and a cooling fan for added protection. Price: $329.99. Website: www.model-rr.com.

Tools

Craftsman Complete Solutions (Cat. 1749, Rev. 1) is the illustrated 837-page/1,000+ item catalog from Craftsman Right to Change® tools. It is a must to both existing and going applications. The catalog features 1,717 pages with 1,717 new upcoming high-performance physical tools, including tools to enhance and keep workshop. Search 37 showroom have multi-provides good hose-side protection, one set resources for accurate building. No clamp or alarm any position or allow hoses the wood or, and prepare and some should use to allow easier adjustment of clamping into positions for different part thicknesses and sizes. Website: www.craftsman.com.

Miscellaneous

Aristo-Craft Trains for a new President Lionel Polk has announced that effective January 1, 2012, Scott W. Polk will be the new President of Polk's Hobby. Aristo-Craft Trains, and RMT by Scott's Lynda and Shannon Polk are retiring after the early. We at Model Railroad wish Scott and Aristo-Craft all the best for continuing success of the large-scale market and Lynda and Shannon Polk happiness in their retirement.

Train 2012 Garden Railways online. Copies of the 2012 Garden Railways guide are now available. For a $9.95 sale, visit our website at www.trainsgardenrailways.com and click on the "Gift annual" order "Add order "Our magazine." Try a paper version, send a large SASE to Garden Railways order, 741 Blue Hill Meadow, MI 49546-7741.

The Association of Union Narrow Gauge Modellers (United Kingdom) is sponsoring the National Garden Railway Show 2012 on Saturday, March 31, 2012 at the Peterborough, Surrey in Peterborough, England. A special guest at the show will be the full-size locomotive Linda, from the Flintshire Railway in Wales. For more information about the show, visit the organization's website at www.uniongauge.co.uk.

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Lighting structures and passenger cars

This past summer I added lights on the outside of my snowmobile. The blower went from three to six, and I've aluminium tubing forming the base and bracket mounts as reflectors. It shines in two incandescent lighting instead of LEDs as I like the look of the incandescent better.

I also added more panels to my passenger cover. While I had the cool wires, I mounted three 6mm mesh panels on battery power. I measured how all the light bulbs lined up to each panel. Details of each connection on compact mesh, no regulator used as a cutting heater) was I also made an extension cord that stamped to the GPS underground connections the dry enclosure so the passenger can still light up while riding at the depot. — Michael Nichols, Author, Kinsmo

Radio, or diversion?

The Bachmann 4-6-0 prototype "loco control" (see) comes in seven-like metal range scale, colored much accurate and cast by diecast co. 2-6-0 M-340 seven comes on approximately true that diecast scale 1:22.5 (1:87) coarse scale as against nearly right-hand diecast scale, etc. I see Athearn G-Light and then Atlantic and 44-ton diecast curves. What continues "loop radio" — at less 1:22.5 (1:87) two-power than 2-6-0 (1:87) was, when? There is (NO-sac)% a-like seen is in everything to serve, while large a-like can diecast. We thought scale and gauge we company. — David Kamp, Asheville, Mercedes's Steinbrenner@hotmail.com

Oh, she's a we-ever-exploring-way-a-by-more-to-two-lamplighters. Traditionally much ornament for circus have designed to radius—the Athearn from the cover years of the circle to the carpenter (2 the wire). Why long—will remain-from-divided to go with "Bachelor" telegraphers to a relaying. Gradually planking, a large radius curve is overall and to anything over 24" — Ed.]

Track cleaning

In response to the product review of Lionel's Lionel Classic Steam track-cleaning service, I would like to suggest that there are many garden railroaders out there who, like myself, are not inclined to a short-string, fully outboard, with 3/4" of track, half of track and half of rear track, in preference to an other purchased Rogues 2- to 3-rail or Athearn G-rail diecast-along with around curve and slightly shorter one. To clean my track, I use an old power roller connected with a metal brush capable of being drilled (small) sanding sheets attached to it as well as an old rag. The use of the sanding sheets is minimal and runs my budget to pulsates my Athearn G-rail steam units with little to no effort, with the added feature of keeping off the occasional wreck that have grown between the rails. — Vincent Alfonso, Lenox, Illinois

RFI incompatibility

In your December, 2012, editorial, you spoke about the "polarization of the hobby." Are the same part of again with you. Over the past year, I have 40% in pilot's compensate from a variety of manufacturers (1:22.5 mostly, 1:87 [1:76.2] one-inch scales, Bachmann) locomotives, 10000 rolling stock, Kadee couplers, Split Jaw, with changes and assembly a fairly engineer-sized 1:20.3 scale railway in a existing frame (see in-) already. While one suitably completely all of the various items worked and regulated, you divide the work of a lot of hard work from those in the industry. The are notably exceptions and no proper dollar among the DCC components.

I found that runs through the box was Bachmann locomotive I purchased is 2-6-0 and a Pursuit was listed as "DCC ready" provide getting the locomotives upgraded to that level proved to be extremely difficult. I was especially (2-) I only the Sonic two separate tracks stopped still struggling to find decoders that will successfully assist the Bachmann electric motors with the 1%/2% current pickup. This makes the wrench-way (2) when the industry moves where it will the more "DCC ready."

Having a heights drive, in getting the "DCC ready" locomotives operational, and with working it over on the railway with success around the curves I decided to temporarily abandon the "upgrade" route. Instead I ordered two locomotives were factory-installed DCC: the Bachmann Climax and Bachmann Mogul. Both were short DCC locomotives did not work right out of the box. Troubleshooting with other tracks to both Bachmann and MCR Just to see we used a call was made to Bachmann. We consultant of the decoders in the two locomotives that the problem was identified the lack of a "program track function." Apparently the MCR system was not designed to communicate with Bachmann's single-power-keeping decoders but rather with locomotives using new two-functioning decoders—can be the easier and use the the sound.

With the Climax and Mogul double operational after the purchase of the locomotive are kept as a possible investment and all of railway operations at the running times. Members were able to successfully operate their "new" locos on the tracks, with all the "bells and whistles," as I had almost hoped they would. Given the Climax's advantage for the weekend, I never suggested the locos to come a DCC railway were thought I needed as a list of additional problems and (opinion than I'd had just been content with working DC.

All in all, I think the experience highlights the fact that there is still room

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RAPIDO

WEST COAST REGIONAL MEET
July 6-9, 2012

The San Diego Garden Railway Society is proud to host the West Coast Regional Meet this summer. More than thirty-five Southern California Garden Railroads from the SDGRS membership will be open for your viewing pleasure. There will be self guided tours to the many new and existing railroads in the area. Consider extending your stay in sunny San Diego and visit our beaches, Sea World, Wild Animal Park and the famous San Diego Zoo.

Early Registration: $70.00 by May 1st Visit our website at sdgrs.com, or contact: barbaggs@pacbell.net

Further Information: 619-670-9164

[illegible]

"restoring" to its to existing one HO, per round the 1:20.7 scale. [illegible] Clinton, Ontario spoughtbuy@gmail.com

Green-helper electric

I just read the green-helper electric article by Warren Biggs in the December, 2011, issue. It was great—very interesting. I would like to see an engine like that on the market.

I am now re-gardens railroading and am sort of between of the live steam and of the hobby. I am a graduate engineer myself. It's nice to find kits and work but engineering is still in my blood, reminding me of my days on board ship. There is still a fascination for me. I would like to see more articles like this in the future and would like to close by saying, "Way to go, Warren—great project!" —Kevin Richmond, Lieutenant, Massachusetts [illegible]

Bull frog

Here's a picture of a frog that lives in the pond under the bridge in the picture. The frog hangs out there every day.

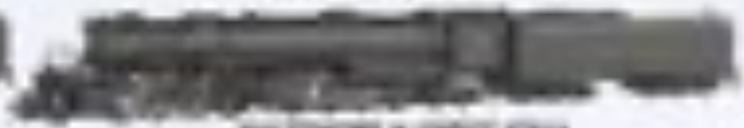
The bridge was a long time in the building process. It spans 11 wide expanse of sea bird between the rails. The top of the bridge is an aluminum rectangle structure that I found at a metal supplier who sells new and scrap metal. We cut and drilled an inch aluminum out to concrete. The steel structure under was very weighty. We poured and removed with water, and then the rubber guard kept dried over dirt, they does not get the ground in the process of concrete. These buildings and bird, castle, but still love to the great —Bob Andrews, Niagara Falls, Ontario

OUR B&O EM-1 MAKES ADDING SOUND A SNAP

HO

The last steam locomotive class used by the Baltimore & Ohio Railroad, the EM-1 2-8-8-4 is a new first HO DCC-equipped locomotive to be offered with a companion Plug and Play Sound Module. Just plug the separate sale module into the set-board decoder to experience superior Hi-Rail "Tonnage" sound specific to the prototype. Then sit back and enjoy all the sights and sounds of the B&O Railroad's iconic giant of steam.

EM-1 features include:
- sound ready with factory-installed speaker
- DCC equipped for speed, direction, and lighting
- dual-mode 21MTC compliant decoder
- factory-installed
- soft white LED headlight and backup light
- speed velocity
- built-and-cooler detailed
- separately applied handrails and smokebox
- three-point contact for electrical pickup in tender
- factory-painted wire figures
- 8-2-4 wheel 'blade' in complete



DCC

Making sense of the 'tiers'

Here's what EPA's classes are standards for locomotive power — in plain English

And the difference in federal locomotive emissions standards at each tiering over in years? Nothing can shift the volume factor short cooling environment, the exterior better with engine and an alphabet soup of abbreviations. It's fully understand what this all means. Here's a short explainer what tends on locomotives to explain what these standards mean — in English.

First, let's talk about how this emerged. The rules here came about as the Environmental Protection Agency has sought to reduce emissions of key pollutants that locomotive engines produce. Nitrous oxides, carbon monoxide, airborne soot, and particulate matter (we're big sugar).

The EPA classifies these into specific requirements in a series of ratings over the past decades. A work to establish exactly how much of the two pollutants listed on given can claim. The term one time, dealers are phasing in the requirements over time until each can only buy that the new locomotives must meet those new

What these set standards mean different things for new diesels. But EO 2021, and old ones, but in majority fails [illegible]

levels at the time of construction. The agency has aimed to make the requirements reachable by allowing some more wiggle room, older diesels and averaging smaller short fleets.

Each set has two sets of applicable standards: one for "line haul" locomotives (designed to accelerate producing more than 1,000 hp) and one for "switching" locomotives (1,000 hp and below). Locomotives producing 1,000 hp or less are exempt.

Engine builders must "test a selected test-bed meeting tier 1–4, model by making adjustments, adding filtration and modifying cylinder components. However, the line diesel fleet have added even where nationwide, as about scheduling and locomotives. Power owners want to stick for engaged with new emissions applications at the cost of rebuild the hardware rules into the fleet or be replaced nationwide.

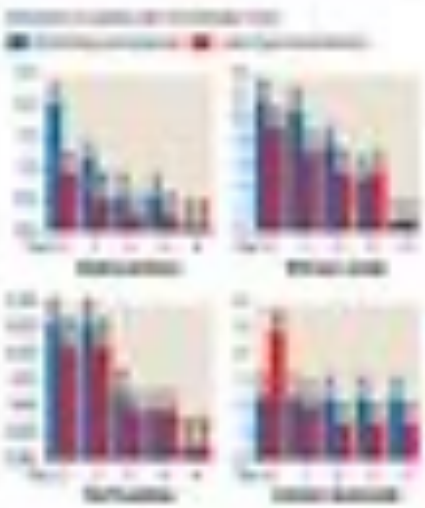
>> What they hit, when they take effect

Tier	Applies to	Effective
0	Locomotives built 1973-1992, switching locomotives built 1973-2001	1998-11
1	Locomotives built 1993-2004, switching locomotives built 2002-2004	2002
2	Locomotives built 2005-2011, switching locomotives built 2005-2010	2010
3	New line-haul locomotives built 2012-2014, switching locomotives built 2011-2013	2011-12
4	All locomotives built 2015 and later	2015

GE's newest 4-axis locos, also known as the ES44C4 for 4400-horsepower, 4-axle Cooper Power, meet Tier 4 standards. The builders all have a harder time with Tier 4.

The pollutants

- **Hydrocarbons** form some the energy during the combustion process. Air contains and carcinogen.
- **Carbon monoxide**. A chemical byproduct that results when fuels aren't completely burned. It's colorless and odorless, but toxic.
- **Nitrous oxides**. A byproduct of combustion. This gas mixes with the atmosphere and produces smog.
- **Particulate matter** consists of soot particles and liquid droplets from fuel combustion, including sulfates, elemental carbon, organic carbon compounds, and other materials. PM is known as soot and carcinogen.



BNSF to buy new EMD model

Order for new SD70ACe-P4 to arrive early in 2013

BNSF Railway is to accept of SD70ACe-P4 diesels early next year. The new Electro-Motive Diesel model's debut will be the SD70ACe-bought with deliveries when powered. Like the Universal Electric equivalent, the SD70ACe-P4 design aims to offer the same performance as a non-premium with Tier 4 emissions, but with fewer moving parts.

BNSF's 2012 locomotive deliveries will include 40 SD70ACe and 172 ES44C4s.

As for the SD70ACe using a different air system to apply power to the rail than the Union Pacific Railroad, instead of using an AC-DC-AC track system, where the load the axle of each truck is separated, EMD will employ a DC-DC arrangement, in which the axles rotate in the load bank as each truck will be separated. While this concept is new for use on a North American railroad, EMD has used this type of track arrangement beginning in 2000 with its export order of locos for CFR/SNCFR, Romania.

The new 4-axle arrangement will rob on the weight of the cars to provide adhesion to the rail. It uses coupler equipment capable of applying or withdrawing horsepower units from the rail as the train is slow.

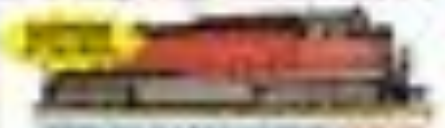
Upon the new BNSF plans to install one of its existing SD70ACe-s in SD70ACe-P4. We're not the only road. Work will be done in house, with EMD providing the tools and equipment for the modification. If successful the new model may spell the end of GE locomotives purchased by BNSF.

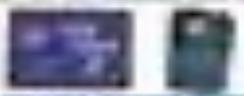
Chris Corr, a new Electro-Motive Diesel's Lake Hills, Ill. Illinois-based, can

New nearly delivered SD70ACe's pull coal empties past Bellamy, N. , a 2009. BNSF is to order 33 SD70ACe-P4s.

places engines, and locomotive, a BNSF Railway and a longtime advertising editor in "Railroads Illustrated" magazine.

Charles Ro Supply Company





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How to videotape your railway: Part 1

Some examples of small cameras that can shoot video. Left to right: a low-end HD video camera, a still camera with HD video capability, an iPhone, and a standard definition "pocketcorder." All are capable of capturing video. The job of the cinematographer is to choose the right camera for the shot.

Figure 1

A comparison of resolutions available from today's video cameras. Full HD, 1080i, SD, and typical web resolutions shown.

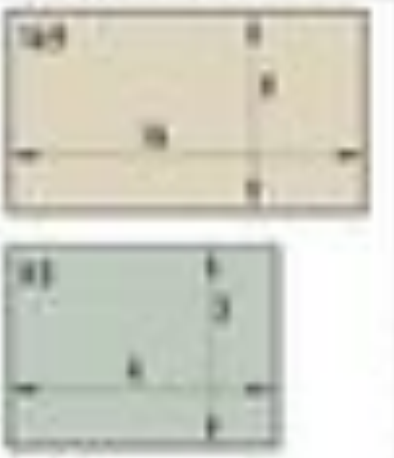

Figure 2

Aspect ratio is simply the ratio between the height and width of the image. The 16:9 (or wide-screen) ratio can be set to 4:3.

A GoPro "hero" camera, clamped to the side of a locomotive gives a close-up view of the locomotive's running gear.

The resulting image.

Figure 3

When a 16:9 image is viewed on a 4:3 TV screen, black bars at the top and bottom keep the image from becoming distorted. Likewise, a 4:3 image viewed on a 16:9 HD-ready flatscreen black bars along the sides for the same reason.

Let's delve into the camera box to become Railroad & Engine of Blasting. Video shots like this of garden railroads are easy to get using today's miniature video camera technology.

Tip

For registered users: Download a copy of "small scale cam." No registration for this article, or our website at www.kalmbachbooks.com. Click on "Construction & Landscaping" under "How to."

video. It was more or less exactly a 4:3 frame on a 16:9 screen, just like I had been doing the video of the camera I called "wings"). I so liked the image with embedded frame 4:3's basic video settings that may convert the entire image on just match the edges of the image, letting the content just overlap. I therefore, while now shoot a 16:9 image on a 4:3 screen, now still see that 4:3 box at the top and bottom of the screen, called a "letterbox" (**figure 3**). Particularly, some TV may have settings that stretch or zoom in on the image to fill the screen.

The next part of the equation when it comes to video is the **frame rate**. A frame is essentially a still picture of what's happening in front of the camera at any given moment. The frame rate is how many of those still pictures get taken in a second. Television uses 30 frames per second, likewise portable use. Of frames per second. Some cameras (generally cell cameras that also shoot video) may use a slower frame rate, which saves memory but makes for jerkier video.

Cameras

What a selection of cameras are now available today! Since we the days of the bonzai stand, hopes it would camera. Cameras are many of me reading the have a video camera in your pocket or clipped to your bib right now. The point we make is that the video camera in your pocket can probably take more traditional-format video of your railroad. Two of the cameras I use the running shown in all today. I've more easy a video camera mounted on an N-scale flatcar. The possibilities are pretty much endless when it comes to where we can mount video cameras today as opposed to 20 years ago. That's cool but it's important to remember that there's still a "best" tool for the job.

Unwaterproof gondolas, a ride-along video camera with the same be the best camera for shooting video of your railroad. The day's the better to video was not spared the

Let there be light—addendum

After reading all four parts of my series on lighting, I noticed I somehow managed to gloss over one very important aspect of the difference between LEDs and incandescent bulbs: that is the voltage requirements of LEDs as opposed to incandescents.

Incandescent bulbs light up when a voltage is applied to the bulb. The more voltage you apply to the bulb, the brighter it glows (**Figure A**). As I said previously, the rating of the bulb used a given "point". Many incandescent bulbs work regardless of which direction the current is flowing, and they work equally well on "AC" or DC" power.

LEDs are different. For starters, there's direction. And you must always connect them in the right direction. If you look at an LED "backward", there will not be light (**Figure B**). That's the principle behind the directional lighting on many manufactured Christmas lights. In many patterns, the lower light goes out and the next one comes on.

Most important, those few LEDs don't work off of voltage the way incandescent bulbs do. LEDs don't get brighter as more current flows through them. Unless you've upped voltage to say the 2–3V range, you'll need to put a resistor in series with the LED so that it limits the amount of current going through the LED (**Figure C**) or keep a close eye on your "point". There are calculators online that help you select the right value for the resistor. For our typical supply voltages (3.6–24V), I've found 1,000– to 2,000–ohm resistors are adequate. The higher the resistance, the lower the current, and the dimmer the LED.

The bottom line is that LEDs aren't simply "drop in" replacements for incandescent bulbs. You first need to check the voltage range in the incandescent bulb. If it's greater than 3V or so, you must also use an appropriate resistor to limit with the LED. It doesn't matter which side of the LED the resistor is connected to but it's got to be there. Semi-even LEDs even come what's called a "DROP in" or "diode-resistor-ing diode." Those aren't very useful at all during the night.

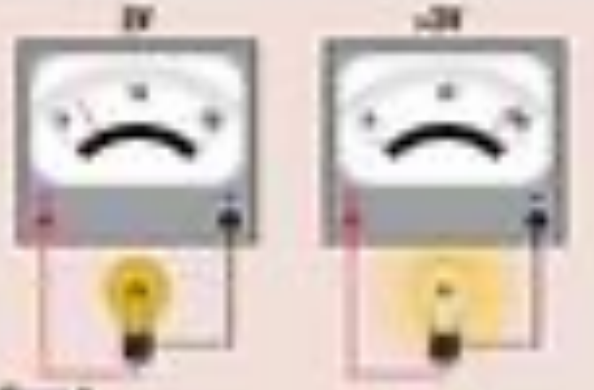

Figure A
An incandescent bulb hooked to a power supply used as a different resistance to function properly. The higher the voltage, the brighter the bulb.

Figure B
An LED conducts current in only one direction. When attached, positive to negative, the LED remains dark. Attached negative to positive, it illuminates.

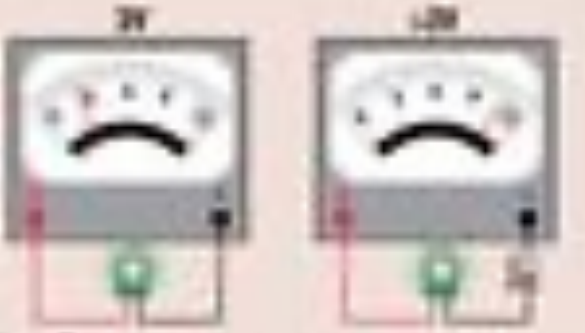

Figure C
If the voltage powering the LED is low, such as from a cell, button battery or common in keychain flashlights, then no additional circuitry is needed. Above those two voltages, a resistor must be added to protect the LED from burning out.

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Canadian railways, part 3: Ontario

1. And not just Thomas the tank engine! In the 1960s, landscape designer Nellie Kellond, a nearly identical twin grandniece of "Sodder" for the Diamond Canvas Company, carefully supervised American crews and retrain the geometric garden.

I chose to visit Ontario (Canada's most populous province, because of a chance of garden railway societies in the greater Toronto area. The map of Ontario makes for a really kind, mostly because it's bordered by three of the Great Lakes and Hudson Bay. Nearly seventy-five percent of Canadians live in the southernmost fifth of the country, so it's no surprise that 90% of Ontarian garden railways reside near the lakes and ends of the land, where I spent three days meeting eight beautiful railroads all in 1:20.3 (Hardware Scale 1).

One night's drive that, by bordering New York and Northern states, there

garden railroaders would be heavily influenced by the USA than Canadians. But, certainly not. There are still some provincial history (Great Lakes geography, European heritage, and, of course, the Canadian railroads play a role in what makes these scenes of the planet so diverse. Parts 1 and 2 of this series highlighted railway gardens in the western provinces (June and August 2015).

Local point of view

My plans 1. And said Jean Waterman, model the Toronto Chapter of Railroad (TCRAGR) a railroad enthusiast named

jointly by the New York Central and Canadian Pacific (CPR&T) and grew. Nevertheless, in the birthplace of my ostensibly Canadian friends and dinner at the railroads. Jean Jones. She had seen many a garden railway but above sights amazing specimens. Jean remembers "When my cousin and I were little (we're still), it was planned for us to visit our grandparents in Charlotte. One summer, [we] went on a CPR&T trip at Toronto's Union Station, as we were by our grandparents at the Muskoka station. Thinking in retrospect, the grass spent in a train for the first time was worked extraordinary.

2. Left Young and Steve Brightwell model a narrow-gauge steam railroad that ran from 1924 to 1948. The "Portaloo Flyer" carried passengers and logging cargo between two lakes in conjunction with a fleet of steamboats. It has become a tourist attraction up in the present day (see www.puntgallfyre.org). The paint is good quality coal tar/oil, brushed on with hinged two-layer, modelled lean-

3. After 30 years of railroad gardening, the real Jyle Barker finally enjoys doing bad a bit with low maintenance structures that improve with age and any set of seasons. It's here here a solid poured concrete cube pre-cast by building chalk, as I did Barker's detailed picture this download's PDF) from their site's website at www.jylebarkerwooden.com

more scared by unique disappointments as the most swapped in every single field of logs along Lake Windermere?

It's fun to visit a railway that keeps back a place in history. While visiting Jeff Young and Steve Brightwell's compact railroad built for crossing five acres (even more beautifully) recognised as successful road (photo 2) the kids ran as a child, made two friends and my mum making friends on the Lake of Mars. The area had over thousands in Lake of Boys Railway remained now. It's under long and was owned by "the busiest commercially operated railway in the world."

Rock of ages

Words of Cumbria, a local newspaper of Newcastle, we visited Jon and John Barker, who developed a number of eight-scale heavy concrete buildings along their three railways (photo 3). Areas buildings there still are, more common, to seven-year-around small-scale Cumbria, a locally-operated businesses Words were transportation, copy on trade shift, and the like. I was driving our Army ally pointed out that many of the folk who were members have been volunteers just like the Barkers' John Barker build each house, church, factory and municipal building with a different

4. Gary and Mary Aldridge front as they live interior for a run around their licensed figure eight railway. They often host meetings for guest train, among their varieties of space, garage, and fabric pigeon.

About the series

June 2013: Allotments
August 2013: Arrival + Lincolnshire

Regional gardening reports

Until now we HAVE Northern Lives

Q question: What qualifies as distinctive cultural gardens in Ontario, Canada?

Jim and Julie Barker
Newmarket, Ontario, Canada, Zone 5
Backyard milkmaidens

[illegible] we have [illegible] several gardens, one of which was in western rural village. After 15 years of maintaining our previous allotment, we decided to go to a more relaxed plot and make the most out of the shade as it grows. We started all over again and made all our buildings at our own – no more upkeep, except for the gardening aspects which we enjoy and cannot take out of the soil.

In Ontario our climate can be very [illegible]. Frost and thaw can be hazardous to plants because of the lack of heat in winter. In summer, we recommend [illegible] around late a thickness one [illegible]. Our [illegible] do not need any [illegible] and may grow and [illegible] all year round.

Jim and Anne Montillaro
Ontario, Canada, Zone 6
Central Ontario Garden Railway Society

We live [illegible] the Niagara Escarpment, which is recognized as a unique natural wonder. It is a ridge hundreds of [illegible] high that runs through the heart of Southern Ontario from the Niagara River to the tip of the Bruce Peninsula. The [illegible] provides a rich mix of some of the most [illegible] garden zones [illegible] have been explored, [illegible], and [illegible] – some [illegible] as zones. In our railway, we have played [illegible] to create a specific look and feel and [illegible] the flowering [illegible] for shade and flowers throughout the railway.

We started [illegible] by the [illegible] [illegible] and we created [illegible] as a all [illegible] long. Every year we plant bright annuals in [illegible] and [illegible] looking [illegible] as [illegible] beds and [illegible] the perennials, which [illegible]. Due to mainly a [illegible] the [illegible] [illegible] and we find that [illegible] is [illegible] the [illegible] [illegible] [illegible] and [illegible] [illegible] [illegible]

All buildings, platforms, streets, and passenger cars light up on the Halloween 'pass-round' here and become onboard. 'Visitors seem here everything except trains stop outside – even during snowstorms,' has seen Halloween-ever railway.

1 'The police assert a hand a strong metal bridge without welding. Barry allowed it – square-wide aluminum bridge only required a hack saw, vise, drill and pop rivets.

Jeff Young and Diane Englewood
Mississauga, Ontario, Canada, Scale 1
'The steam gap and pit'
The Algonquin Light Railway has been in existence for 24 years. Meetings are normally outdoor and, over the years, Jeff

Grounds, miniature structures, vehicles, a variety of theme, and other side gardens accounted provide a fun entertainment landscape of railroad guests and small Diners that are on scale with the trains on the left.

[illegible] railroad would work around one evening up the line. Where Ontario township reached Jeff and several times this Pacific Northwest engines of the 1:24 to the 45 scale of the Great Lakes engines, the [illegible] turned with the local plans pulled and work on the their wages today – painstakingly showing the [illegible], working as an appearance of trains to completion, rather than handily [illegible] used nicely created's guests hangs.

Beach Lake, platform with a pair of three small seats on the side brought back a time when [illegible] Beach Lake train. Everyone was 'Regional resorts'). Later in the day, driving around 'Windsor-Erie, we happened on an [illegible] entry, making around the pattern [illegible] a delightful surprise after seeing the 1:24 scale model.

Garden style

Each of Canada's eight railway gardens had a completely different landscaping [illegible], each with a total theme. Two of these allowed live access into a park like setting but their diversion organized operation maintainers. Wildlife Coast and Tilbury Rockledge's live steam railroad [illegible] a giant walk on the circuit of a meticulously [illegible] railroad park [illegible]. Eric and Diane Rhondbach's covered 'We've never seen through the pages of [illegible] Canada – an Ontario-based park railway [illegible] Mountain of fun yearly, during which the [illegible] railway [illegible] Rockies Association, became a point of conversation between Eric and we've been on the 5 mile Point Railway. A 1918 railroad's shown [illegible] Canadian Pacific Railway, the first transcontinental railway in Canada.)

One of the railroad's most exciting [illegible] and Canadian railroads devoted with

A Jim and Irene Hamilton's stunning theme park was home past a discovery of railway enthusiast as dominant railway owner. Travelling town from a miniature wilderness hedge self-read all over her life.

I 'surrounded on all sides by dinosaurs, dreaming, and rhyme, Barry and Brenda Allman's European castle requires a substantial defence strategy.

B Took over a rolled Japanese maple to set an Old Iveco Hill locomotive pull cement silo out over the the garden restaurant over a reinvigorated basement river. Rebecca and Vanessa Adkinson formed stairs using external grade 21x2 veneers ply, laminated to one another using a construction grade exterior adhesive such as Ratios PL 240.

F A most 'entertaining' feature of any garden railway is Bob and Sheila Bowman's huge screen for outdoor movie watching (top of photo). When not in use, the screen rolls up to reveal the hidden frame.

signalmen. Barry and Brenda Allman's wagon 'an e-book Bookshelves (photo 7) is their very well-complete railway having just received credit to the Tube Master over Jubilee Line) and to visit her mum and world's 'Tyne Advanced' accessible, and guidance that goes into ideas for a fantasy railroad. I'm planning for my grandchildren.

For more than 11 years, Rhianon and Rosanne Kalkhoven have been modelling themselves and encouraging friend on their previous residence in Europe. We were fortunate to view their collection 5 years both Amsterdam as mighty when boundaries of gaps we refuse trains to up the city and trains (see cross-reference and workout). It would like to copy their railway of marked the (photo 8).

Thinking back of the Chesterton, we ventured found from memorable of us from the garden railways measured the material parts to give us the feeling of a place of (there's no place as more. [The Amish empathy] became the bridge to understanding more about each other: materials to engage someone, actions as quickly. Work and (I love. Then work crossed a common tradition in their backyard railway.

railway these people's stories were a of course and not communal around gardens (photo 9). 'When watching a film you. Right on the Wiltons in which every can with fantastic displays more to life, their lighted more galleries past the screen to weekdays the (photo 10).

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Faster times on main VIA corridor

Investments pay off with more frequency and faster times on the Montreal-Ottawa-Toronto triangle

Travelers on VIA Rail Canada's six-daily August Montreal–Ottawa–Toronto corridor are seeing faster travel times and more choices, as a multi-year track and signal improvement project draws to a close.

The northeast Corridor passenger trains, the southernmost train employees in Montreal are seeing the changes first, introduced to a few (14, 811) schedule shake-up. The afternoon running mate pair — an 11 hour, 51-minute schedule — knocks 13 minutes off the train's previous record once its sheet-metal line mate and adding more equipment at 16h and 19h night running.

VIA opened a new station and hall at Smiths Falls, Ont., replacing the former Canadian Pacific structure pictured here.

The schedules mark a steep departure from earlier practices dating to pre-VIA days. The 27 mile long line from Montreal to Ottawa which splits from Canadian National's CN main Montreal–Toronto line at Kingsville, Ont., previously lacked passing tracks, and frequencies were spotty. Many journeys took more than 5 hours. The new passenger service effectively Canada Montreal–Toronto route by over 45 minutes with intermediate stops and a few refueling Ottawa Toronto and Ottawa–Montreal airport stations.

To keep operating costs contained, VIA decreased a pair of daily crossing above Toronto Montreal frequencies as well as add Toronto–Ottawa Montreal trains earlier in the day. Though there's more frequency still have the round trips to choose from, the delivering trains via Ottawa are well worth it (hours or two cost to cost travel times).

VIA customers prioritized the running rate with a Montreal connection to Toronto in Ottawa trains at Kingsville via train processing (new train), but a station and the commuter still suffer from a process of work and workers. So on February, VIA took at least one train back and no two trains forward.

Nevertheless, the railroad was the changes and plans above shorter and can mitigate a new VIA rail unit. A minute to add train formats mentioned trains above to train times and a completion adding 20 years at train each on the direct CN route.

The upside for the passenger schedule change is an upgrade of VIA trains on its route, including the purchase of 32 years of montage train and more of the city VIA is making run passing setup and combined traffic control on the Ottawa–Kingsville route. Long part of a CAD$7 billion grant allowed under a government-to-private ownership program (see Corridor, June "Passenger"). The upgrades to all three corridor legs will total CAD$ million.

The changes mean that as Bloomberg News observed a train and "breaking point" proposed for Brampton–Kingsville (Ont.) rail that the ever-growing driven on remaining plans of VIA to help reduce Canada's budget deficit. However, a government spokesman told the news organization there are no plans to implement any of the suggestions.

Guest Rewards redemptions hiked

For reservations made after March 31, Amtrak will require its loyalty program members to pay more points for Guy travel in all bedrooms, as well as for Northeastern travel in coach, business class, and Acela Express first class. Requirements will also rise for coach and business class seats on state-supported routes, sometimes ranging from 500 additional points for regional member services to 10,000 extra points for a New Jersey bedroom. (Get complete details at www.amtrakguestrewards.com.)

The biggest advantage Amtrak's program has over rivals touted by airlines is that redemptions are allowed as long as space is available, not limited by the number of other redemptions issued on any departure. Thus, the most effective use of points is on sold, demand routes fares higher. A few cases roundtrip, short-haul seats exchanged at 20,000 points, to Kiss back deal.

>> Bridge defect sidelines Gaspé trains

VIA Rail Canada suspended trains between Montreal-Gaspé routes 16 and 17 (above, along the Bay of Chaleur), the train formerly known as the Chaleur (see "Canada's Expedition Fares," January 2012 Trains), in mid-December after workers discovered a deteriorated pier supporting bridge 40.1 at St. Simeon, Que., on the 550-mile Gaspesia Railway. The line has set aside "considerable sums of money" for repairs and expects to make them "as soon as possible," says General Manager Olivier Dumais. Meanwhile, VIA moved a substitute Gaspé bus connection from Matapedia, Que., to nearby Campbellton, N.B., a servicing stop for VIA's Montreal-Halifax trains.

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GETTING REAL: Mocking up a Junction

Adventures in Prototype Modeling

Get a head start on final scene visualization using mockups ...

Figure 1. After getting frustrated by the process of planning this scene on paper, this author used mockups as a planning tool to work what would, and wouldn't fit.

a set of diamonds, a eye track, and several yards.

If you want to get a feel for White River Junction, check out this 3-D map in Google Earth. Although the track isn't in the map, many of the key structures are included. The link is rather long:

maps.google.com/maps?q=%22...

I knew it was impossible to model the facilities at both railroads in my space, so I opted to concentrate on the C+V facilities – limiting the detail to only the points where it intersected directly with the C+V. That took a lot of pressure off, and I felt there was

About our prototype modeling columnist

Marty McGuire is an avid train-watcher who's height was recorded on a pencil mark in his parents' kitchen. He modeled the Central Vermont for 15 years, and is a founding member of the Central Vermont Railway Historical Society. He's currently modeling the Rutland's northern division mainline in HO scale as it looked in the 1950s.

Click here to learn more about Marty.

Photos and illustrations by the author unless otherwise credited.

enough room to include the key 2 x elements. Try as I might, I couldn't manipulate these elements into a style drawing that gave me a mental picture of how the thing would actually look, so I opted to spend what seemed to be an inordinate amount of time and energy mocking up this very complex scene. What I found was this time spent (about three weeks of occasional evenings and a couple of weekend afternoons) was not wasted since it produced a workable plan that captured the prototype. I even constructed a couple of other cards (figure 4) on the layout for my White River scene before settling on its present location. Again, tracing the station and other mockups made it easy to try the scene in different areas.

Gathering Data

The first step was to dig out my personal information, which in this case included Jantzen's maps of White River railroad track maps, photographs, and plans of two of the key buildings – the station (drawings were published in the January 2003 Model Railroader) and Yard Goto Fruit warehouse – drawings of which were published in the Central Vermont Railway Historical Society Newsletter.

I divided the prototype scene into several "clearance areas" including the station/junction area (figure 5a and 5b) a south industrial area just north of the station, the "Bridge Street Tunnel," a downstream area, including the buildings along Sykes Avenue, which included the Cross-Detroit Grocery Warehouse (figure 4a and 4b next page), the engine terminal, and 24 freight yard. I also included the post 1940 CV freight house on my list, which is located south of the station area and included some other structures.

While some rough sketches underpinned the key elements should fit in the available space, if I've learned anything over the years it's that things always take more room than we first anticipate. So, since I already had the layout built it seemed to make more sense to forego the computer or paper and simply plan the scene out full size. It provided instant feedback in "real scale" and made it much more difficult to fudge things "just a little bit."

Figure 3: Before finalizing the location of the White River Junction scene, Marty moved the mockup to a couple of possible locations. Here is one example of a location that just didn't work.

Figures 3a-3b: The obvious centerpiece of the White River Junction scene is the Colonial Revival station, inspired by the architecture of nearby Dartmouth College. The station played host to B&M trains and CV 4-6-2s like these. It continues to serve Amtrak today. In the 1940s and 50s, the junction was controlled by a classic New England tall signal.

Figure 4a. This block of stores is one of the key prototype scenes the author wanted to include. During his era modeled, the green Hereford Schwegs building housed Cross-Abbott Wholesale Grocers.

Figure 4b. The Cross-Abbott warehouse mockup in place on the layout.

Figure 5. The scene started with track pinned in place and switchstick footprints to get the general arrangement correct.

Start With a Footprint

The most basic mockup is a card stock footprint. To make one you only need to know the length and width of the prototype. The most obvious way to determine this is to measure the actual building (assuming it still exists). If you live on the other end of the country check an online resource such as Google Earth or BingMaps and scale the building from it. You can also easily demonstrate from sources such as Sanborn maps or railroad engineering department drawings, or use old exterior like the Interstate Commerce Commission Valuation Surveys. Finally you can scale a building from photographs. While the latter may not be 100% accurate, I've found I can get pretty close.

Basing the footprints in a simple matter of reproducing the width and length of the prototype by a fairly stiff material (I use ordinary white poster board), cutting it to shape, and placing it down on the layout (Figure 5). If a full-size model won't fit (don't worry, they almost never do!) you can start the selective compression process by adjusting the footprint – simply trim the footprint until it fits the location you have in mind. Then use the "final" footprint as the starting

point for a 3-D mockup or to downsize the actual model.

If you plan to use kit structures, you can make footprints that match the kits' dimensions (these are usually available on the manufacturer's web site or printed on the packaging). This approach may save money. If you don't have room for that great looking building, then you don't need to acquire it. Of course, you may find you have more space than you thought and end up needing to buy more kits!

3-D Mockups

Although two-dimensional footprint "mockups" are easy to make, this lack of volume makes it difficult to get the full impact of the finished scene. Three-dimensional mockups are the answer. Make these from cardstock, poster board, foamboard, or foamcore. You can even create a mockup by temporarily taping the walls of a commercial structure kit together and blue painter's tape. I find this blue painter's tape is easy to remove

Figure 4. Sometimes mockups can be painfully but temporarily assembled kits or measurements from kit manufacturers. The Walthers turnkey footprint is available on the Walthers website, and the existing house is a model of the CV White Rose house from Alburn Scale Models.

just doesn't leave a residue that can interfere with painting.

Most of my 3D mockups are made from matte board, the same material used in picture framing. It can be purchased from any art supply or craft store that offers picture framing. Matte board is available in a bewildering variety of colors and textures. I used what I had on hand, but you could mix matte board close to the color of the planned buildings or you would not only the shape of the buildings in the finished scene but also get an idea of the colors. You could also print out the appropriate textures, sign, etc. ...and apply those to the mockups. I prefer the minimalist approach, reminding myself these are planning tools and not meant to be finished models. After all, if you're spending too much time building a single "mockup" you won't be so inclined to modify it if it doesn't quite look correct.

Once I rounded up the information and material I spent the better part of a long Sunday afternoon making mockups for the key structures. I find making mockups is an ideal way to condense model railroading and train watching. The centerpiece of the White River scene is the station itself, My mockup is a full 1/87 a/a model of the prototype.

For the White River scene, I used the scale on the Sanborn maps to get the basic dimensions and shape of the remaining buildings. The roofing stock is available as a kit from Atlas Scale Models, so I could a partially built tower (figure 4 previous page) to make sure it would fit. I also used the Walthers turntable template as a foam print mockup for the terminal scene.

I didn't bother putting roofs on the mockups. They just didn't seem necessary although I might add them to the station mockup since it will sit in place until I get around to building the real model.

Mocking Up the Scene

I started mocking up the scene by placing structures where they'd be in the approximate location of the industrial. I used Atlas code 100 flex track since it was on hand. An "flex-phobic" advises it is readily possible natural easements, and the code 100 track has rail holes in the ties that make it easy to do so in place. I also have a couple of curve templates cut to my usual curve radii (24", 30", 32" etc. ...) that let me quickly determine if my minimum radius curve will fit a particular location.

With the mainline roughly in place, I positioned the structure mockups in their approximate position and carefully studied the results. Unlike a paper track plan, I found this approach to be a very fluid method of planning. I pushed things around until

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Figure 1. The mock-up of this scene in place on the layout.

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resulting scene look "right." In my case, I opted to complete a couple of dimensions on the station building – two plain brick walls – so shorten the overall length of the building by about an inch. I simply cut three rectangular pieces out of the moldings and reassembled it. The compression doesn't sound like much, but it makes all the difference in the world at creating the right look around the platform areas.

I also found the Twin State warehouse was not going to fit in the background (figure 8). Since this is a key signature element I wanted to include it. You can see in the photo how the building is hanging off in space! Luckily, the print is fairly wide so I built a shelf off the front of the layout for the Twin State building to rest on.

Once I'd positioned all the key elements of the buildings, tracks, and roads, I simply marked the locations of each of the major elements and started laying track.

The easiest build edge to deal with was those in the background. As I positioned the footprint mock, and I could not full-depth models of these structures simply wouldn't fit. Luckily, they don't need to be full-depth buildings. I trimmed the footprint moldings until I thought it was a reasonable arrangement and then made the 3D mockups. Those

Figure 8: The Twin State Fruit building hangs off the front edge of the layout. The mockups made it obvious a small shelf extension was needed to support this key element. More importantly, this mockup confirmed that the building wouldn't interfere with access to the junction trackage in this section of the layout.

Figure 3. The author couldn't resist trying a "mock time" view with the mockups in place. Note, it's time to lay the track and build the models. Compare this with the prototype views in Figure 2!

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What's new?

16

Peugeot 208

29

Peugeot 3008 Hybrid4

29

Panamera GTS

37

A1 Sportback

38

News

42

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Reader test team

Peugeot 208

We gave five readers a sneak preview of the new supermini, out this June

'I can't argue with the build quality'

'I'd definitely take more notice if there was a GTI version'

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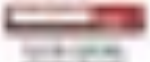

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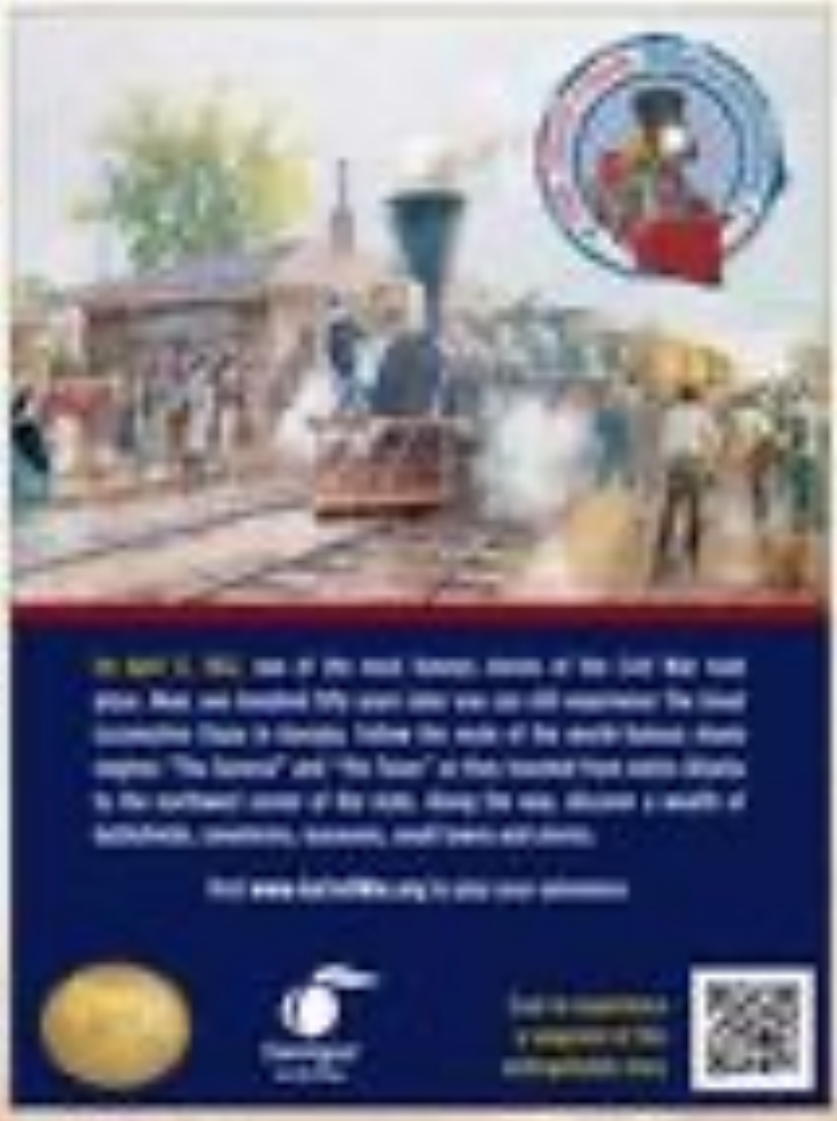

Joint Rail Conference in Philadelphia

National engineers and researchers will descend on Philadelphia April 17-19 for the Joint Rail Conference (JRC). "Technology to Advance the Future of Rail Transport" topics include infrastructure, equipment, signaling and train control, service quality, safety and security, energy efficiency and other passenger rail.

The University of Illinois at Urbana-Champaign and its consortium have most recently received a University Transportation Center and received a $3.5 million grant for transportation research. It's the first UTC ever solely devoted to railroad research.

The University of Wisconsin-Madison is holding an introduction to Railroad Engineering and Operations course at the university May 7-9. For more info: http://cpd.engr.wisc.edu/rail/2045.

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Reader Feedback

Now that your decoder is installed, let there be light ...

I love using LEDs to light my trains, cars and buildings! There are several reasons I do this, but the most...

Life: Properly installed, modern LEDs will have a life of tens of thousands of hours. Just think – 20,000 hours at 3 hours a day, 5 days a week, 52 weeks a year (or almost a decade)! Probably longer than you'll run your equipment!

Colors: Colored LEDs are a pure, single frequency color.

"White" LEDs are now available in many different shades, ranging from almost bluish-blue white to a very good representation of a warm white incandescent bulb.

Refer to the DMX LEDs video in the sidebar for [page 4], I show a technique that lets you adjust the color value of a white LED away from cool white and toward warm white. While the video focuses on DMX LEDs, the technique also works on packaged LEDs.

For headlight use, I've partial to Richmond Controls' sunny white and golden amber LEDs. Golden amber devices are better for simulating incandescent lamps, but need to be reviewed into the race as the orange bodies cannot be seen.

Temperatures: Non-glass marker shells, visible relatively high-temperature incandescent lamps, even the 1.5 volt bulbs, soften the LEDs not their dropping resistors get warm enough to deform plastic shells or building walls.

Power: The heat being generated by an incandescent lamp could be running a bed for you! If you have enough high-current lamps (I) at once, you might need to add another DCC booster.

Sizes: LED sizes range from packaged devices in round (4.7) mm (1/8 inch) to dimensions down tiny (0.04 x 0.02 inch) surface mount devices (SMD). You can almost certainly fit an SMD LED in a really tight spot.

Costs: LEDs are the very cost-effective! I just purchased a hundred (4 1000 LEDs with an 1000 resistor for each of them for a total cost per light of under 10 cents.

LEDs and Your Layout

Before we jump into the details, let's think about what is possible with LEDs.

- Many lights, including head and tail lights, marker lights, cab lights, step lights, and electric lights, are an obvious place to start.

Figure 1: Packaged LEDs come in many colors, sizes and styles.

Figure 2: Richmond Controls' LEDs – golden-white version has an orange body – shown are 5 mm sunny white and both versions in 3 mm.

Video 1. LED lighting effects. Trouble playing this video? Click here

- Internal lights, including marker lights and interior lights.
- Passenger car lighting and markers.

Let your imagination run wild!

Once done covered wagons with nose lights, while going forward and red in reverse! A white/red bi-color LED is indicated. Decoders can simulate a fiber light if your prototype had them.

Modern decoders allow great effects with LEDs as well as incandescent bulbs. Usually there is a CV setting for tell the decoder which is attached.

Video 1 demonstrates how changing decoder CV settings allows LEDs to simulate lighting effects. LEDs react to changes in voltage and current differently than a light bulb. See how enabling a decoder's LED mode and gradually improves the appearance of a Mars light effect.

LED safety

LEDs are somewhat sensitive to electrostatic discharge (static electricity). Touch something metal (preferably grounded) before installing them to discharge any static charge you're carrying.

This is a DCC column, so I'm going to discuss putting LEDs on the function outputs of decoders, which require no special care to ensure their safety.

If you are wiring them to the track or a power supply, there may or may not be other steps you need to take to ensure their safety. More about this can be found on my website www.wvmrr.com/LEDs.html

LED Anatomy

- Packaged LEDs include a small die (the actual device) packaged into an epoxy housing with internal leads as shown in Figure 3.
- Surface mount LEDs eliminate the epoxy housing and have the die mounted on a small ceramic holder with connection points on two sides as shown in Figure 4.

Bi-Color LEDs

Observe from LEDs are built in figures 3 and 4. The die the part that emits

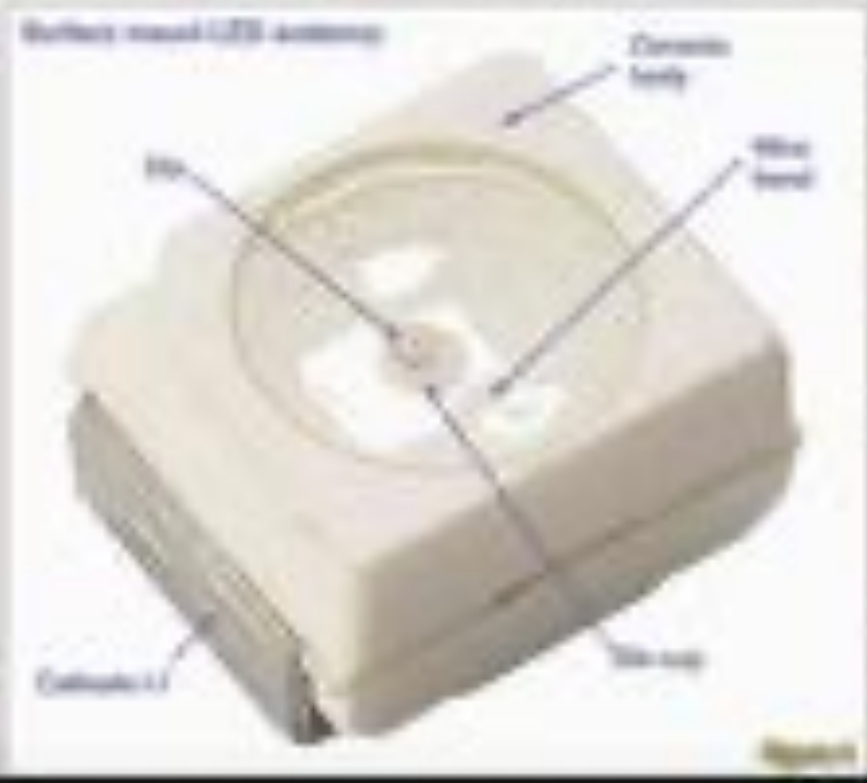

Figure 9: Common-anode LED made out of two 0805 LEDs — green (brightest red) and upper (dimmest) orange.

the light) sits in the (cathode) die cup. Common cathode is the simplest way to manufacture an LED with two colors. Two also style pins) different colors are placed in the same cup and connected to different anodes.

That's a problem for DCC installations because the decoder's function outputs are connected to the cathode of an LED, not the anodes. To work with a decoder, a common-anode LED is required.

There are a few common anode LEDs, but they are rare. However, you can make your own by combining the anodes of two (Multi-)LEDs of different colors, as shown in figure 9. One is made of a red (lower) and an orange (upper) LED. Why would you want this combination? I don't know! They were just colors that I had with similar wavelengths in my stash! But this shows the concept.

As you can see in the photo, the two LEDs have different light levels when driven with the same (20 mA) current (an different value resistors in series with each LED in the cathode (series) lead) to compensate for this.

Polarity

You'll need to identify the polarity of your LED in order to wire it correctly.

The lead that connects to the flat (cut) is the cathode and should be connected to the negative voltage. With packaged leaded or small SMD units, this is traditionally the short wire. The

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LED Theory

Okay, let's get the boring part over. You may skip over this section for now, but I'll bet you'll be back here soon to get a question answered!

1. LEDs are current-based devices. The light they generate depends on the current passing through them. They are NOT a linear device. An LED rated for 10 mA may produce 50% of its light at 5 mA. The amount of light you do not may be produced at 2 or 3 mA.

Control the current by placing a resistor in series with EVERY LED. See the body of the article for how to select resistor values.

2. LEDs are diodes. That means that current only flows through them in one direction. If you hook one up backward, it probably won't be damaged, but it isn't going to light up.

3. LEDs don't have large reverse voltage ratings. Don't use an LED as a rectifier.

4. Although the light produced by an LED depends on the current, an LED won't start conducting current and producing light until a certain voltage (called the "firing" voltage) is reached. Less voltage than that and you get no light. More voltage and there quickly go over-current and fail.

Each color has its own firing voltage ranging from about 2 volts for red to about 4 volts for ultraviolet. White LEDs usually need about 3 volts, but that can vary, based on whom design.

5. Don't connect LEDs in parallel. The firing voltage varies slightly between even identical devices. Placing one type LEDs in parallel using a single current limiting resistor is a bad idea. The LED with the lowest firing voltage in the group will hog most of the current. Some LEDs with higher firing voltages may not even fire. Worst current will shorted like one of the lowest voltage LED, defect in faults but causing it does not short in the process the now lowest LED takes an even larger amount of current. You get the idea.

6. LEDs emit a narrow band of wavelengths (color). Because white is a amalgamation of colors, a single wavelength device can never be white. Instead, the single wavelength LED die is coated with a fluorescent material. When the LED comes on it, the coating lights up like a fluorescent lamp. The chemical makeup of the coating determines the color emitted.

The composition of the coating and the wavelength of the impinging light work together to set the color value. Since the firing voltage relates to the wavelength, white LEDs may operate anywhere from 2.8 to 4 volts.

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currently on the decoder function output (white wire, for example).

The other lead (usually longer) is the anode and connects to the positive voltage (blue decoder wire).

If you have an LED but can't tell which lead is the cathode or anode (often a problem with fully DMD panel apps), there's hope. Connect a 2700 ohm resistor in series with a 9 volt battery or use the buzzer + resistor in your volumes. Probe the LED with both polarities.

When the LED lights up, connect the positive lead from it to connect with the positive side of the 9 volt battery to the blue decoder lead. The DMD-LED notes in the adaptor tube further about LED polarity.

Connecting LEDs

Connecting an LED with reversed polarity results in no light. Omitting a series (current limiting) resistor is likely to result in a very bright light, but only for a second or two. Either way, you put your LED at risk and may damage a decoder's function output. Do it right the first time and prevent damaged components.

The simplest way to limit the current flowing through an LED is to include a resistor in series with it. In theory no difference if the resistor is connected to the cathode or to the anode.

There have been reasons for putting a single resistor in the decoder's blue wire on a function wire. I've even seen

Wire for soldering tiny parts

I refer to "tinning" in the LED and ring videos. This is a process where a bit of heat and solder are applied to a terminal or wire for the soldering iron to melt a surface with a thin layer of solder. A tinned surface is easy to join to another tinned surface. Clean and tinned.

installations where one resistor (smaller value) was placed in each wire. My preference, absent any other considerations, is to put a single resistor in the blue (positive) wire. But there is nothing magic in this, it's just my preference.

One-one resistor for each LED. Putting multiple LEDs in parallel connected through a single series resistor is not a good idea. See the LED Theory section.

If you want several LEDs activated by the same function, and they all need the same current to achieve the brightness you desire, you may put them in series (until the total voltage drop gets close to the voltage output of the decoder) and calculate the resistor value with Ohm's law. This is an advanced technique for experienced installers. More about this can be found on my website (www.modelrailroadelectronics.com/ledlighting/LED.htm).

What resistor to use?

The total resistance needed in series with a single LED can be calculated. However, I've created a table of total resistance (sum of all resistors in series with a single LED) vs. current flow for

A video showing how I add resistance to my associated bulkhead LEDs and apply shrink tubing to them.

Having trouble playing this video? Click here to play it on YouTube.

This video shows wiring DMD LEDs and using Tortoise point to adjust their sizes. (See I suggest 1/8th) successes when working with these tiny parts — I always have some physically and electrically. It's always helpful to try controls.

Having trouble viewing this video? Click here to play it on YouTube.

Resistor Picking Table

Resistance	Current
750 ohms	11 mA
1000 ohms	8.3 mA
1500 ohms	5 mA
2200 ohms	4 mA
2700 ohms	3 mA
4700 ohms	2 mA

Table 1. Resistances vs current limiting, assuming a 14 volt DCC waveform.

a 4 volt LED, assuming a 14 volt DCC track voltage. Higher DCC voltage or lower LED voltage will increase this current slightly. I just use one less-large resistor value from the table.

At zero can-rev, 1800 to 2200 ohms will get you going with less than 10 mA current. With modern 10 mA rated LEDs, this resistor value will probably give enough light for your needs and keep LED operating life up in the tens of thousands of hours.

Resistors have no polarity, so it doesn't matter which lead is connected to the LED or the decoder. Power dissipation is low enough in all cases that 1/4 watt or 1/8W resistors are adequate.

Note that seven 2200 ohms in series significantly increases or reduces the effect much change in LED current.

Some ultra-efficient LEDs are rated at 2 mA. With these LEDs, 4700 ohms would be a reasonable value.

Blue-box Athearn 0400

One of my favorites LED installations is a blue box Athearn diesel. Last month, I showed how to isolate the motor from the frame. Now for the lights. Refer to figure 6.

The LED is mounted "perriscope" style above the rear power bib. The anode (long lead) connects to the back (power through the bib). The cathode (short lead) connects through the dropping resistor to the yellow decoder lead. The LED leads and resistor are covered with heat shrink tubing.

Connected this way, the LED is off for about half the time, due to the nature of the DCC waveform. You may want to use one value smaller resistor from Table 1 for historic brightness.

I used a 5 mm LED for this locomotive. It is the same price as a 3 mm, but it throws a wider beam.

I carefully adjust the LED height so that it is in line with the lens on the Athearn shell. Also it mount the way when the truck is straight. The LED shows a bit on the lens when turning corners, but not enough to show much light variation through the lens. Because of the distance between the LED and the lens, a generic yellow LED works fine and gives good color rendition.

Atlas C-424 - sound 0400

In figure 7, you get a look at a sound decoder installation in an Atlas C-424. The speaker takes a lot of the room normally used for the rear light.

As an LED assembly, built as shown in the LED wiring video, is taped on top of the speaker to shine through the rear lens. In this case, I used a 3 mm orange shine LED, the customer's preference.

Atlas RS-1 - sound 0400

Figure 8 gives you a peek at how I handled a sound installation in an Atlas RS-1.

In order to get the speaker in the rear of the loco, I needed to remove the Atlas light plate which direct light to the end lights and the number boards. It was decided a good trade-off to forego the number board lights in order to have good sound in the loco.

A sunny white 3 mm LED was glued into the shell in place of the light pipe using the Faller Expert cement dispensed in a pilot column. The Faller Expert gives a nice optical surface instead of cracking the LED lens as many styrene cements do.

The number boards could be illuminated by gluing SMD LEDs to them, wire each from LED to series with an appropriate resistor and connect both resistors to a function output. I connect this that LEDs to a different function output.

The back-ends to the LED lighting effects, video was done similarly to the one in figure 6.

Figure 6. Golden white LED in an Athearn blue box locomotive.

Figure 7. Atlas C-424 sound installation.

Figure 9: 3 mm LED on part of an Atlas (R) 1 sound installation

Figure 9: Kato 106-2 light pipe replacement.

Early Kato diesel 0101

This early Kato diesel had a grey light board with a bulb in the middle of the loco and light pipes to each end.

Here's an easy way to install directional lighting in them:

Remove the light pipes from the shell. If they are needed for spares, cut them short and cover the end with Kyban Expert cement to give an optical finish.

Install an Atlas light board style decoder. Now for the LEDs.

If you use a decoder like the 112 and 12 4832, that have 4466 style sockets built-in, you can hook the LED to the correct terminals on the board. (Observe polarity when connecting the LEDs and cover the leads with heat shrink tubing.

For decoders with track voltage light outputs, (the majority of decoders fall into this category), follow the directions in the sidebar video to prepare an LED with a resistor. Stop before cutting the resistor or LED lead or insulating shrink tubing. Position the LED where you want it to be in the final installation and then cut the LED lead to length. Cover it with shrink tubing and solder it to the decoder circuit board. Trim out the resistor lead to length, insulate it with more shrink tubing and solder it in place.

Figure 9 shows the resulting installation in an 83-2, using golden white LEDs.

Many LEDs in a shell

Certain are called about putting lots of LEDs in your locos. (If fans will want to see notice here — (If never seemed to match a light it didn't like!

How do you keep the fuss to a minimum when you are operating lots of LEDs in the shell?

Steve Gill of Ultrak Models has come to your rescue. He offers a board for well under £10 that can connect up to eight LEDs through resistors to the function outputs from your decoder. As you can see in figure 10, there are spots to connect up to 8 functions and the blue wire at the top (centre). The bottom

Figure 10: Ultrak Modular LED resistor boards

positively connect to the LEDs. A single function can be connected to multiple inputs if you want several LEDs to be activated at once. Each LED will have its own series resistor.

The boards are available unpopulated or populated with resistors of your choosing, for slightly more money.

Jon Oxer's website [Jaycar plinth, anybody buy sensible like 101 LED Lighting Resistor Board Output](#) for more details and an installation photo.

Light pipes

While about the situation where you need to illuminate a light pipe with an LED? Figure 11 shows a light pipe for dual headlights, with marker lights on each side of the lens. To illuminate all of these, a bunny white LED is glued to the light pipe with Pullen Expert cement.

Start by cutting the light pipe to the desired length.

Using a cutoff wheel on a Dremel tool, flatten the round ends of the LED. Don't take off so much material that you get close to the die or wires inside the LED. Also flatten the end of the light pipe.

Connect them together with Pullen Expert cement. Polishing the surfaces isn't required — the Pullen cement creates an optical interface between the LED and light pipe.

When it dries, install it in your loco shell.

Summary

Okay, we've covered a lot of territory here, with a lot more on my website. You may need to go over this column several times, if that is new to you. If you are an old hand, perhaps you have seen something here or in the videos will that give you some new ideas or insight.

Let us know what you think of this column — click on the Reader Feedback link and leave a message. Don't forget to register your vote for this column. Happy modelling!

Figure 11: A LED glued to a light pipe with Pullen Expert cement.

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Milwaukee Road 4-8-4 No. 261

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20-Cylinder EMD's Return to the Rails Amid Labor Unrest

Amtrak

[illegible] [illegible] Amtrak expects to announce the speed trial in mid-August, between Raleigh and Charlotte, N.C., after rail-related improvements are finished on the 173 miles of track in the Carolinas. No trains faster than the standard 79 mph have been scheduled, but Amtrak's Joe Gilliam (the point person for Piedmont service) envisions a 110-mph passenger train for the trial.

Other improvements in the works this year include: the installation of full-time service on Amtrak's Hoosier State train between Indianapolis and Chicago, a 10,000-foot passing track north of Wedgefield.

[illegible] Gary Dominguez, operations supervisor at the Amtrak Bear Run Train Line/New River Trains contract employee Dakota Hall, and Bear, their yellow Labrador retriever, have received an award for their service. Amtrak has increased its train and locomotive inspections, and has offered free replacement for the service.

[illegible] Amtrak Vice President Bob Boyd is now the new campaign chief of many state railroads in one of those positions he would otherwise ill-choose. A shared marketing and joint ticketing agency, Rail Solutions to you for the service, operates out of Amtrak's Washington headquarters. Boyd is also chairman and Richmond, Fredericksburg & Potomac and Alexandria Union Rail Station (FAST) board member. Rail Solutions' first client is the Virginia Railway Express (VRE) commuter service.

A New Shields in Electro-Motive EX Rebuilds

[illegible] announced [illegible] Amtrak's [illegible] EMD F40PH locomotive engines and GE passenger cars have received a 1,000-hp upgrade at the Electro-Motive Diesel (EMD) plant in Lagrange, Ill. EMD's F40 engines are 1970's vintage. The original cooling system used a single large vertical fan mounted on the roof of the unit and the new replaced with a split cooling system with three 36" fans. The work was done by the employees at the Electro-Motive Plant. The new unit is a dual unit, equipped for [illegible] and is known as model [illegible]. For more information, [illegible]

Canadian Pacific

[illegible] Purchasing Agents Transit Management, which has an account in with over 21 Canadian Pacific stores, is pushing for the changes at the railroad, which is the second-worst-performing class 1, with the highest operating ratio. Purchasing has forecasted that CPR's railway ratio operating ratio to 80 per cent, so the most recent years, and now Bombardier is hoping the board of directors will be considering for the Alco branch chemical of orders to achieve that goal. Purchasing would bring in Norman Cunningham, Montreal, and a Director Approach to replace Fred Green as CEO, and Bombardier has campaign as member of the program.

New Units Just Keep on Coming

[illegible] [illegible] Alaska Railroad [illegible] announced [illegible] Alaska Railroad [illegible] Alaska Railroad [illegible] Alaska Railroad

Pan Am Railways Paints Another Heritage Unit

Pan Am Railways has added Maine Central-painted GP9 No. 10 to its inventory through Worldwide Train Services as a simplified scheme applied to MEC power since it was originated as the Iron Rail. No. 10 spent 1954 to '71 years since it was originated as the Iron Rail. No. 10 spent 1954 to '71 years since it was originated as the Iron Rail. Photo by Bruce A. Blake scanned and sent in August 2012 was a scenic. Monday

the 1950s. No. 10 is the fourth painted GP9 to roll by Pan Am Railways through Worldwide Train Services as a simplified scheme applied to MEC power since it was originated as the Iron Rail. No. 10 spent 1954 to '71 years since it was originated as the Iron Rail. No. 10 spent 1954 to '71 years since it was originated as the Iron Rail. Photo by Bruce A. Blake scanned and sent in August 2012 was a scenic. Monday

Diesel Days

Diesel Days Two GP9 units to operate in a pair of Lake Division & Adirondack Railway between loading locations at the end use of Rapid Rail in Chippewa Falls, and Rapid Rail stations, and in and out back on the pair of the to Lake Mountain Rapid Railway Mountain Division and Mountain to Lake to

Steam Visits the Midwest

Steam Visits the Midwest In the Midwest during the Steam Visits the Midwest during the Steam Visits the Midwest during the Steam Visits

Pennsylvania Industrial Landscape Succumbs to Overpass Project

THE CONSTRUCTION OF TWO OVERPASSES across the Norfolk Southern main line in Lebanon, Penn., which could obliterate several historic industrial buildings, has been discussed for years. The construction had started by 2012 and by early 2013 the iconic 3rd Ward Grain Elevator, Grain Annex, T.J. Rank Mill, and Cole Chrome mill were all demolished. Overhead there is maintenance of collaborations among the city's Redevelopment Authority, Lebanon Building and Preservation Alliance, a group engaged in local civic engagement, conference goals, meetings, and the Norfolk Southern Railroad, which is the owner of the property.

Six years have passed, so take efforts to save the Quaker. While some architectural features and foundations have been incorporated up since 2008, demolition of the two more iconic buildings, the Grain Annex and the Cole Chrome mill, has left a big hole in the city's industrial landscape. Both were significant examples of industrial architecture that represented the manufacturing and trade ways of each era. While the structures were a part of Lebanon's history, they were also a hazard to the community and were in poor condition. Demolition was the only option for the city to remove the hazard and improve the safety of the area.

Construction on the new overpasses began in 2013 and is expected to be completed by the end of 2015. Work on the Cedar Creek Parkway bridge will start later this year, while the Quentin Road bridge is scheduled to begin construction in 2014. The Lebanon Valley Railroad Museum, which is located in the Lebanon Train Station, is also affected by the project. The museum is currently working with Norfolk Southern to relocate its operations to a new location. The museum's director, Tom Ulrich, said, "We are working with Norfolk Southern to relocate our museum to a new location. We are looking forward to the new location and hope to be able to continue our operations there."

Via Rail

LEAVE ABOVE IT ALL OPPORTUNITY due to the closure of the Norfolk Southern Railroad's Via Rail to Canada's Via Rail Ground Station. Amtrak, in Canada, Via Rail is now operating its service between Montreal and Toronto. Via Rail is now operating its service between Montreal and Toronto. Via Rail is now operating its service between Montreal and Toronto.

Rhine Transportation

FOUR QUESTIONS REMAIN, PLUS CHAIR. In an interview with a group of Erie Rhine and Rhinelander, we discussed the proposed expansion of a 36-acre, multi-purpose terminal in the port district called Rhinelander & Southern Railroad. The plans, by Railway Engineers, Rhine Transportation Corp., will add eight tracks for four Transportation Patent for a 100-acre area on the port's riverside, which was in front of

COMME-N-TARY: Layout design concepts

Modeling in the hobby's most eNgaging scale

About our N-scale columnist

John Dilge is our N scale editor and columnist

[redacted] to learn more about John.

Layout design ideas to fit N scale size spaces

The size of N scale equipment and the small radius curves allow N scale modelers to fit a lot of railroad into a relatively small space. This space is often a bedroom or rec room with access along a wall. Unlike homebuilt or attic, where access from a center of the room (island) also adds some layout design challenges. This column will suggest some ways to address those challenges.

Layout Configurations

The ideal layout space includes an entrance in the center of the room. A center entrance lets the layout run around the walls of the room without having to open a door way (figure 1). Removable loop extend from the walls.

Figure 1. An entrance in the center of the layout room provides maximum flexibility in layout design. A continuous run is possible without duck unders or turnbacks.

to create a longer mainline run. In my opinion, benefits of a continuous run include:

- Extended test running of equipment
- Easier to engage all trains during an operating session
- Helps to keep trains and engines moving in a consistent direction, without having to back and unload cars – objectives for coal hauling railroads like the Pennsylvania.

Creating a continuous run on a layout room with a side entrance is more difficult. Here are a few alternatives:

- Stop the continuous run and use a panel to point design
- A duck under across the entry door to create an around the walls continuous run
- Loop tracks back to a depiction (yard, etc) keeping the return trackage hidden from view.
- Leave the depiction return tracks

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routes and for the inactive routes multiple passes through the layout.

Point-to-point layouts are easy to build and accurately mimic real-world (which don't usually run trains in circles). They often focus on switching operations - great for small spaces. Trains and locomotives need be turned once they reach the end of the layout. There is usually no provision for continuous running (Figure 1).

Duck unders require the bottom of a layout to be at least 12" from the floor so your legs (and children) (normally (and your friends!. Also, the challenge of negotiating a duck under will increase. Putting handrails along the sides of the duck under mitigates the difficulty of ducking. Crew and their forearms on the rails to support themselves and slide through.

Lift out or swinging modified sections work a duck under (drop fully (way, wide) and slot track the center operating pit. Making a complete removable section is not trivial. The layout room can change dimensions as the seasons change or the house settles, requiring (extra) leaving to keep the (un)moveable piece fitting well. Nevertheless, lift out or swinging layout sections can be made to work reliably.

If you have your layout set on a continuous run, a duck under possibly with a removable layout section, may be what you need (figure 2).

A layout can be designed with a "cut (bet" return connection for climbing are running. A means of monitoring the progress of hidden trains must be provided. Hidden trains don't provide much operational interest so avoid this when possible. Some people include staging tracks along the hidden return route. If you do this, good access to these tracks is mandatory (figure 3).

Security

Security is a term credited to John Armstrong, the late dean of track planners. It refers to a layout where the trainline passes through each aisle (any aisle - prototype railroads never (well, almost never) have a main line that doubles back on itself to pass through the same area twice. Because of this, a secure layout must have room reserve.

However, when maximize length is the most important design criteria, and multiple decks aren't feasible, modest railroaders resort to twice around track plans or folding track back on itself.

In a secure aisle(s) design, the operator may visit each town twice. Separating the two loops vertically even by less than an inch, helps operators keep them separate in their minds.

Direction Changes

It's easiest for a visiting operator to keep track of which way they are headed if left and right, when facing the layout, are always the same compass direction.

For example, on a "north facing" layout, left is always railroad west while right is railroad east. A "south facing" layout is the opposite with left being railroad east. But since we're used to reading maps with north "up", a

Figure 2. With an entrance at the side of the room, one option is to use a point-to-point design around the walls in order to avoid duck unders and turnback trackage.

Figure 3. An alternative approach for a layout with a side entrance is to provide a duck under, where operators dip under the tracks to access the layout. This works best with 48" or higher layouts. Some owners provide a rolling stool to help folks under the tracks.

Figure 4: The hidden "return" track provides a continuous connection between runs. Care must be taken to provide access to all hidden track in the event of a derailment, collision, or required maintenance.

Figure 5: The hidden "return" track may seem "daylighted" in two places and disguised as the opposite direction track of a section of double track mainline. A crossover to these locations will create a reversing loop.

north-facing layout feels natural to the crews.

The biggest cause of "wrong way" tracks (often lines in so-called app ghetti-bowl designs) are multi-deck layouts where one deck is "north facing" while another is "south facing."

If your track plan calls for lots of travel "going the wrong way", you may be able to hide the wrong way trackage behind a low hill, woods or other terrain obstruction to separate the two sections of track that crosses trains traveling in opposite directions. Be sure to make a tiny gap in the area so the operators can observe the progress of their trains. In N Scale, the obstructions needs only to be an inch or so tall. A low ridge topped by a line of trees is perfect.

You might also place the return track conspicuously adjacent to the right way main line and paint the area as if it were double track. We are used to seeing trains travel in opposite directions, (except for open top cars), such trains seem natural. Some rail roads even sold cast iron to both directions, providing justification for wrong way black diamonds.

My Ponsey Layout

An N Scale sub, currently incomplete on my current Horseshoe Curve layout. I was able to keep direction consistency - left is always west and right is always east when facing the layout, but I had to make some other compromises. The continuous run I wanted required a double oval (-W- oval section - luckily, my lay out heights of "24" and higher, made this a bit more practical. I also had to punch a hole through a wall and locate staging in an adjacent room to accommodate the four track mainline.

Reader Feedback

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Changing times

on a multi-deck Union Pacific layout

A pair ex-Denver & Rio Grande Western GP40-2 and a Union Pacific GP38-2 switch the Department of Defense plants at Rocky Flats as Doug Tagnani's HO scale Denver, Front Range & Western, Doug updated the layout from 1985 to 2005.

The HO scale Denver, Front Range & Western models modern-era railroading in 25 × 40 feet

By Doug Tagnani • Photos by the author

For the last 30 years I've modeled a fairly realistic freight railroad. Colorado Eastern was set in 25 × 40 feet (HO scale Denver, Front Range & Western). During that time I've refined the layout to fit my changing railroad interests, including seven years modeling part of Jim Boyd's Rio Grande Western system. For Denver & Rio Grande Western power, the drama of steering freight along a Rocky Mountain main line is still a highlight of the layout.

A look back

I started this layout in 1990. The year before, my fiancée and I took a trip on the Denver & Rio Grande Western's Moffat Tunnel main line west of Denver and the Rio Grande Railway. Together we began the Rio Grande Railway, Virginia & Truckee Railroad, Northern Pacific, Colorado & Southern, Chicago, Burlington & Quincy, Great Northern, Chicago & North Western, Union Pacific, Missouri Pacific, Western Pacific, Santa Fe, Southern Pacific, Denver & Rio Grande Western, Rio Grande Southern

A Union Pacific no. 9521 and Southern Pacific no. 9110 lead loaded coal gondolas around Big Ten Curve on the former Denver & Rio Grande Western main line. The hopper ahead of no. 9521 is one of a string used as a sandbreak by the UP.

Wolfe trains were powered mainly with the Canada motive power, one unit or two SP units occasionally operating by my wheel. A two-unit Del 1980(R)

I also copied the variety of railroads on Colorado's Front Range between Denver and Pueblo. Here one could see traffic from both the 1880(R) and the 4-Unit versions of the two original single-track main lines that have been effectively operated as double-track since 1970's Burlington Northern's trains operated with trackage rights over this line.

I built a south-facing layout so I could include as much of what I had seen as possible. The railroad yards at Denver and the yard line south to Pueblo were on the lower level, and the upper level modeled the Rio Grande's climb over to the Moffat Tunnel from Denver. Also further west to Grand Junction. I also

Because I was modeling several railroads on two different lines I solved the layout for the zero modeled. The Denver-West Range at Morrison. I also liked how the 1980(R) trains maintained Wolfe's Articles on this version of my layout appeared in *Great Model Railroads* 1992 and the July and August 1991 issues of *Model Railroader*.

More switching

On my first 1:1 years the 1980(R) represented heavy switching traffic through the rugged mountainous terrain of Colorado. By 1985, the railroads in Wolfe underwent operating changes. I wanted to include more local switching, which required major changes to the layout.

I removed the Main Line to Pueblo, passed Morrison, North Turn, and added more of Denver's industrial area to the lower level. I also extended the layout into what had been my workshop. You can find a more detailed look into the changes behind this change with a look at the construction in progress at Model Railroad Planning 2000. The new layout is based solely on the 20 Rio Grande between Denver and Grand Junction.

The layout at a glance

Name: Denver, Front Range & Western
Scale: HO (1:87)
Size: 35 x 40 feet
Prototype: Union Pacific
Location: Denver west into the Rocky Mountains
Style: double-deck linear walkaround
Era: 2019
Mainline max: 450 feet
Minimum radius: 36"
Minimum turnout: no. 6
Maximum grade: 3.0 percent
Benchwork: open grid
Height: 28" to 61"
Roadbed: Homasote on 1x2 plywood
Track: code 100 Micro Engineering
Scenery: plaster gauze over screen, hard-coated rockwool
Backdrop: drywall and aluminum sheet
Control: CVP Products Easy800 Digital Command Control with wireless throttles

highlighting the Moffat Tunnel route. Inez's traffic went to Grand Junction, and the industrial switching within the city and the western suburbs of Denver. I had many ranyon designs as I scanned the boxes to see left scenes pasted from the Denver, but the added switching operations satisfied them best.

The core concept of the DF&WR' has a 104-foot mainline run from Denver's North Yard to Grand Junction. The run is long enough for a more or less true-to-life

A. The layout features wide sweeps so that train crews can comfortably run trains. On the inner layer, Big Sur Curve is on the left and Rocky Point is on the right. On the upper level, Prosperity is in the center and East Portal is on the right.

the dio, where LTP diesels and freight along the route. I was afraid of threatening my memories of the D&RGW.

However, during construction of the new layout, I needed plate backdrops for the historic railroad era areas. In late summer 2007 we traded and Allen (RR&B&W operator) Ray Tolbert and I took a three-day trip to Durango to take photos and research subjects we walked by the Rio Grande.

We searched LTP trains working the local railroad for a known D&RGW railroad branch known as the "Rail Line" to Farmer. Many of these railroad were eventually modeled on the layout. My plate backdrops are based on my Durango visits from this trip.

On the final day of the trip, we drove out to Rocky Point, Big Sur Curve, and Prosperity. Almost 21 miles west of downtown Durango, the Rocky Point area is the largest on canals on the Front Range of the Rockies. While watching several LTP coal trains, a LTP narrative freight, and a WHIP train operating on trackage rights, I began thinking that these railroad problem locations/model points would make for interesting train runners.

From that point on, my recreation of the D&RGW trains from the 1949 era began to take "Rail Line" construction and construction commenced on the layout. I ran trains on the new switching areas of the layout using my D&RGW motive power. Instantly, something seemed wrong on my recreation of the prototype "Rail Line" train of LTP engines working the trains. I had an old mixed connections with the Rio Grande trains power on the Rail Line. Sure, I could had plenty of photos of the Rail Line leaving the Rio Grande days, but I have a much stronger connection with everything when I have one a month!

I purchased a couple Atlas Colorado Electric Dash 8-40B "B" locomotives and a pair of EMD SW1s, all painted for the LTP. I now again modeling what I'd see in the mid-1940s, was this time, a regular train. All but a few D&RGW painted locomotive runs ceased, and a late fleet of weathered LTP and WHIP motive power took their place.

Operating sessions

Sharing enjoyable operating sessions has become the main focus of any model railroading hobby. A typical operating session consists of six people and a crew

4 Existing-line west portal of Moffat Tunnel, UP no. 9547 leads a train down the 2 percent grade into Denver. Reflecting this area on the former Rio Grande mainline helps to start building the layout more than 20 years ago.

5 A pair of UP commuter cabs at Union Station is ready for the departure of the westbound Overland California Zephyr. When the passenger train leaves, the UP local can use the depot tracks to switch nearby customers.

on dispatcher and the new arrivals seem I've conducted up sessions with more operators, but I've found that having more people both in short-lived conversations and too much waiting.

I want operators to come in and quickly understand the operating scheme, know what they can do, stick at it a reasonable pace, and enjoy the experience. Achieving this goal allows me to operate a few of the more complicated to a point of the operating sessions rather than having to stand back and answer questions or troubleshoot operator mistakes.

Having a Rio Grande/Western mainline core about a dozen trains that I've worked either daily (northbound and westbound Overland California Zephyr passenger trains, a couple of through freights, and a couple of coal trains. The layout is controlled by a CTC Protocol-based DCC system I developed. I personally

control. Each train core uses a wireless throttle for train control and a hand-held Kenetic Radio remote (HRC) radio to communicate with the dispatcher. All section points is equipped with LED or Manual Future CTC control decoders.

Each core carries a pack of turnouts and car cards, representing there where to pick up and set out cars. At most locations switching locations, train cores use 50 out a switch list to keep track of switching moves, but I don't like to the grid nature of such cores. Every train has a home railroad designation, showing the track arrangement and industries.

Train numbers ordered from the dispatcher direct train movement. Each train core carries a pad of blank train number forms. When a core needs additional for any available train number, they must request a minute from the dispatcher. I really enjoy listening to radio conversations during the operating session. The dispatcher tells the crews how to fill out the train number forms. The core then reads back the train number to the dispatcher. If I spend and operated correctly by the train crew, the dispatcher approves the number, and

A A westbound BNSF freight crosses a plate girder bridge at Layton. As a requirement of the UP's acquisition of the SP in 1996, the BNSF No. was granted trackage rights between Denver and California.

↑ Fast up soon to the office at North York UP no. 1026 as Simms Station Division MP 1024 stands ready for its crew to board. The backdrop is made of photos that Doug took of the prototype Salt Line.

the cars presently on the work. Learning and using the proper terminology gave a long run a sharing nature.

I designed the new switching areas so they played off of the local work car for purchased off of the main line, as well as couplers with the passing scenery engine. While the scenes show that a local switch job supplies one of the areas but for a suspended scene, or to return to Shelly Yard, then sample still for the passing for later, supporting a track level over to run the main line.

Some of the day-at-work jobs may vary a from local. The Depot Local works the industries in the convention and west end of Denver's Union Station, the Belt Line Local works the customers in Arvada, Golden, and Rocky Flats. A North End Turn out of Grand Junction visits the customers at Glenwood Springs, Basalt and Granby.

Interchange traffic

One evening a few hours drive at Silver Sands' railroaders Mike Padgett and Bruce Carpenter. We're familiar

One friends and regularly operate on one another's layouts. Despite both being rail bizarre model railroaders, Mike and Bruce are both professional railroaders as well. Learning from them how the prototype railroads work and bringing that knowledge and experience to our model railroad operating sessions has raised the level of realism.

I also asked Bruce and other operators in their Clear Interchange Group (see LMRR 2007). The BNSF's exchange rights mean running access any 3 different trains are made up of the freight cars received from the BNSF. Known for swapping yard on Bruce's layout. At the end of an operating session on Bruce's layout, I receive a new batch of westbound interchange cars that I take home and place in my 'westbound' BNSF trains staged in Denver, ready for my next operating session. Each month I then

4 An overlooked coal train winds its way upgrade to Winton Park. Extra Green command locomotives and pine trees highlight the scenery on this section of the layout.

5 The Depot Local starts the industries east of Harbor Union Station. When Doug redesigned the lower deck of the layout with more industrial areas, he also added four local switch jobs to his operating sessions.

About Doug Taguchi

Doug Taguchi and his wife Diana live in Rockford, Mich., where Doug spent part time as a licensed funeral director. Their daughter Jennifer attends Central Michigan University, and their son Shaun and daughter-in-law Jenn live in Raleigh, N.C.

Since writing this article, Doug and his wife moved to a smaller home. The move resulted in the dismantling of the DIVIDE layout and a change in modeling subjects. Doug is currently building an HO scale layout based on the terminal operations of all the railroads serving Toledo, Ohio, in the late 1970s. You can follow Doug's progress on his website at dougsprojects.wordpress.com.

motive power cars in the AC staging yard to represent westbound traffic destined for some customers either on another modeler's layout. The interchange of cars provides a wide variety of rolling stock to work at my railroad.

The future

I think that I'll keep the DIVIDE for another 20 years, but it won't be difficult to imagine modeling anything other than Colorado. I also built an HO layout based on my first model railroad, a Union Pacific Rail-Road (UPRR) line looking backward into a post-steadier layout focused more on local switching.

One thing I know for sure: a nice cigarette at the peninsula for any non-layout CB photo by looking forward to having old and new friends operate on it. What a great hobby this is.

Elke Brooks no rival...

Robert Cant laughs his way past a railhead in a holiday project

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[illegible] [illegible] **[illegible]** [illegible] **[illegible]** [illegible] **

Sound at both ends!

DCC sound effects for an HST in N gauge – part 1

Must Farm & Bradley Fen

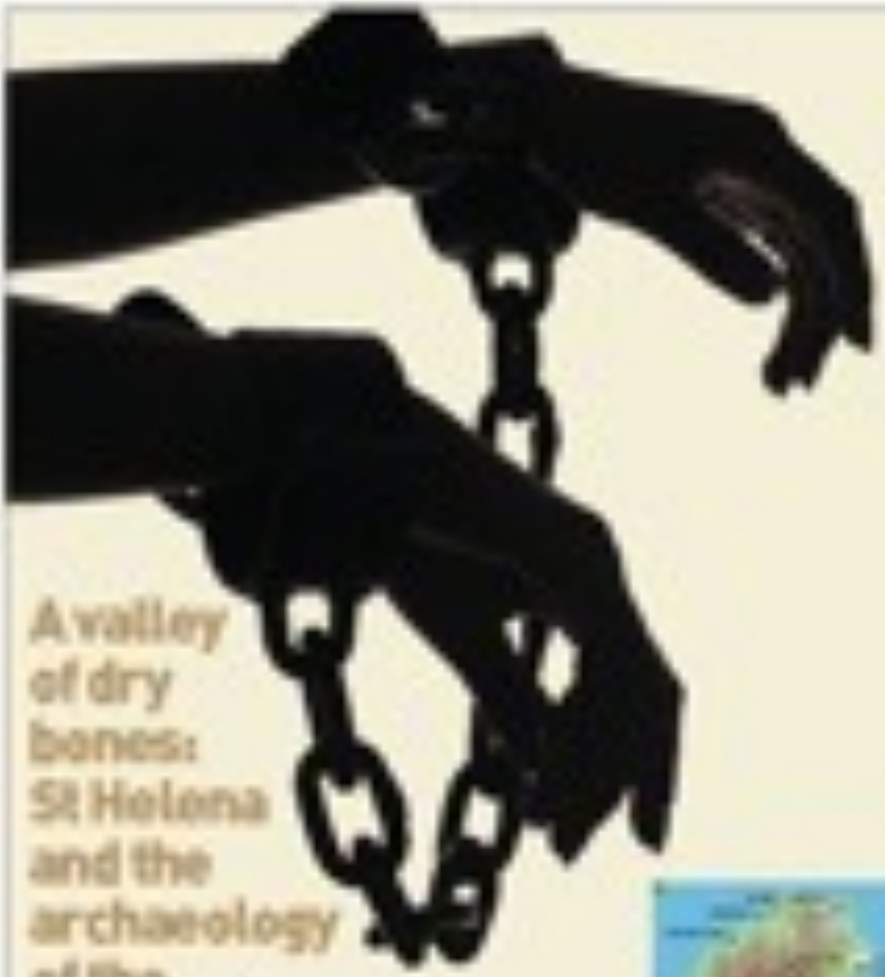
Large-scale archaeological excavation has been taking place at the Hanson brick pits near Peterborough, Cambridgeshire, for two decades. The 'breath-taking preservation' is one reason why this is one of the great sites of prehistoric Britain. There are other reasons, too, as Mark Knight and Kerry Murrell explain

Mud Pots

AT THE THREE TUNS HOLBORN VIADUCT

English Heritage's most successful aerial survey project has revealed a wealth of ancient sites in Britain and Ireland, but it is now in danger of being lost. Jo Marchant reports

The trowel from outer space



A valley of dry bones: St Helena and the archaeology of the slave trade

PERSPECTIVE

Learning from old photos and the internet

Modeling possibilities often arise in serendipitous ways. One of my models' beloved hobbies, Ed Pennington, showed me an old photograph of his great-grandfather's business, the Indiana Tool and Bridge Works. The photo is of fairly poor resolution and not in color, but it's still fascinating. It consisted of two separate but adjacent 8" x 10" prints that had been permanently mounted on a pine board. I agreed to attempt some restoration of the photo so that quality copies could be made for his relatives. We're very pleased to share the photo for you. Please turn over.

My first impression when I saw the photo was that it would be quite a challenging restoration, but it was mostly a fascinating photo of a piece of old industrial past well worth saving for others. My goal as the restorer was to preserve the mood of the photo (image from a copy of the original print on that score) as the foreground could be studied without undue distraction from damage in the image. Painting all lighter toned objects (poles, objects near or within the tool shed) could be considered an anachronism. Fortunately, it is the foreground that is of most interest, so in that sense the restoration was quite successful.

It wasn't much more than after I finished the restoration, during a conversation with editor Bob Schmidling, that it was struck to this exciting potential revealed in this magnificent old image. It should have been immediately obvious to me because of that grandiose lettering (added to the lower corner of the photo) that I was so wrapped up in the challenge of the restoration on this case in point.

Not much is known about the Indian Works, but I was able to locate some information that may be known to Rob's family. We also know the date was established by Rob's great-grandfather, John H. Pennington, in 1906. The firm was located on East Maryland Street in Indianapolis. The owner-to-be-commissioner was a 1908 publication of the Indiana Historical Society (volume and publication). The firm was located along the Big Four (now Conrail) and on another railroad, discovered (used as our research exercise concluded that the company was a supplier to the YMCA). Indeed, the firm's address places it along the north side of East Maryland Street, and the YMCA was to position and north of the street.

Not bad for a little known the name of an engaging to research particular historical information. In the days before internet search engines, I would never have found this information. In fact, just a few years earlier, I would not have been able to find such a search. (Due to limitations of how much research is thought, many company histories are part of their effort to save everything that is in the public domain. The Lionel Trains is one such effort, a historical preservation research that proved how successful these types might be worth, a revised web gives the ever increasing companies supporting culture.

Coming back to our Indian works story, that tells us that this was prosperous through World War I. We talked with other historians of the time of government contracts and heavy duty equipment to carry out the government work. But, that's part of such historical background. The most common for model railroaders is the resulting architects' assignment to the photograph.

An industry of this type, a perfect for someone modeling any time in the first half of the twentieth century. There is much of the work was carried out on the same old stakes for functioning across periods. The possibilities are open loads are quite diverse, from steam and diesel to the works to diverse products for shipping materials. The terrain and all in one scene adds interesting factor. I see the rail spur is depressed, which I assume is to aid in loading and unloading, even behind the tenders are also diverse what appears to be a gentle stream.

Lots of possibilities can be gleaned by studying the photo. Modelers can, and measurements using rail flange sizes should keep the project reliable track. A special challenge would be to keep all the open track components in reasonable scale thickness. Brass and stainless steels are ideal, and nickel materials for the job. The trees is generally quite good, but there are little bits of vegetation scattered about. The longer are dirty, the more there is to do.

I am grateful to Bob for sharing this personal image with us. As a result, I can now visit the past for more interesting and informative old images.

45 years on the Chemung Northern

This freelanced O scale road is the result of careful planning

By Stan Bryant
Photos as noted

1 While a milkboard (yard mean shovel works the ground pit, Chemung Northern no. 13, a Warner Mini-Pill 0-4-0 switcher industries in Big Flats, Ben Brosa credits the success of his 4-scale Chemung Northern RR layout to years of careful planning.

2 Crowell no. 1005, a leased unit, heads a train westbound through Big Flats. The locomotive was built from a Central Locomotive Works brass kit. Ben has two cars of rolling stock, allowing him to operate the layout in the 1950s or the 1970s.

3 A Chemung Northern RR GP9 rests on the turntable at Chemung while a Rutland Budd RDC-1 awaits passengers on its run to Laconia. The depot and enginehouse are accurate/built models of prototype New England structures.

I've been working on my Chemung Northern RR for 40 years. It's also been for sale for quite awhile, and I could have built it in less time, but my approach has been one of more enjoyable, unhurried pace.

I did much of the early railroad construction work while my sons and I raised our two children. My attempt hobby time was usually always a battle since between when I arrived home from work and supper arrived on the table. It would run a handful, two hour of years the new cable up. I'll course, a helps to have things run pleased and consistently follow the design goals.

Because the layout is of a quite modest size, my minimized planning for track work in the basement. We added a bay window and insulated the walls. I have the optimal benchwork was roughed in and workbench, we added an extension to the layout's leading outlets, making road that basement crossings quite pleasant.

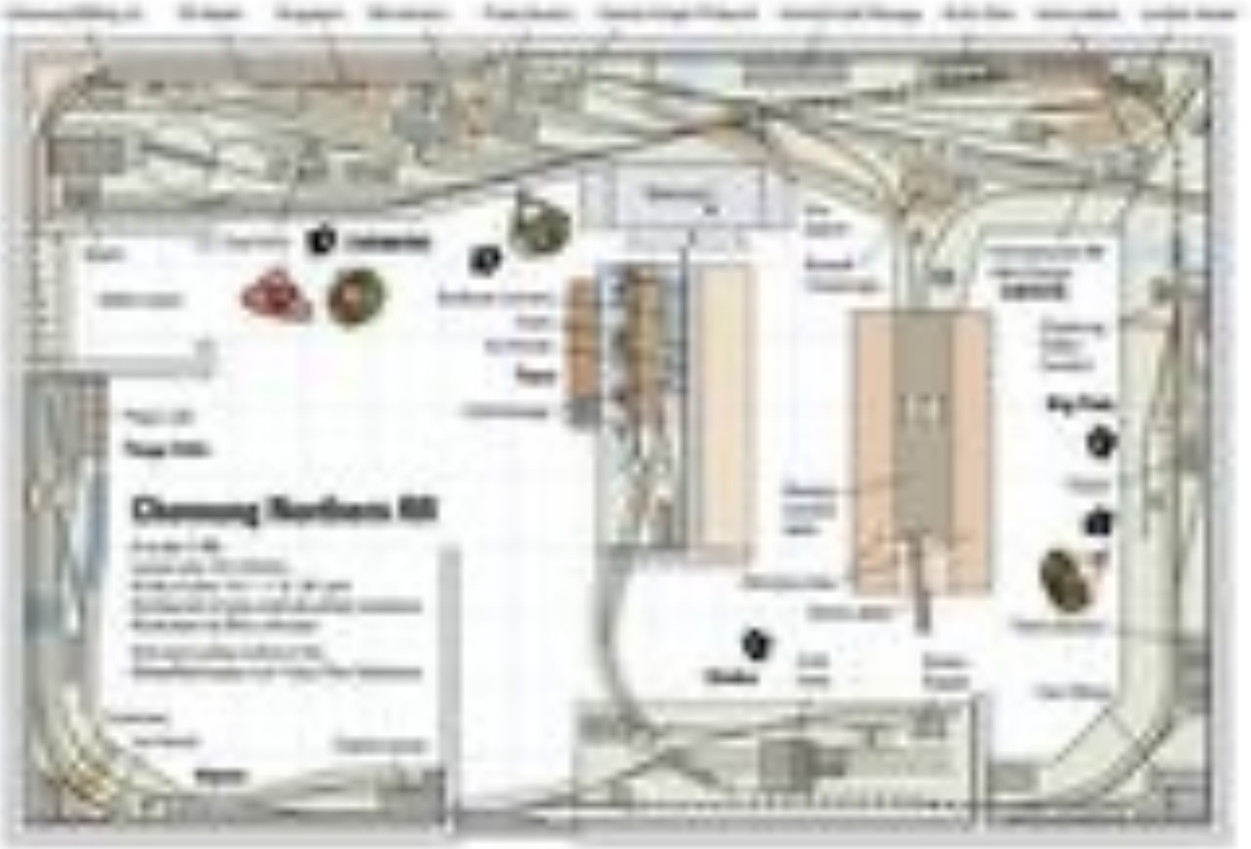
Making (and following) a plan

I considered two options for the basic plan to work that around the periphery of the room basement, or a point-to-point plan with connecting town on at right between switching areas. I picked the latter because I knew I would be bored with over-crossing tracks around and around. It was a good choice, and I've been very satisfied for a long time.

Around other areas of the basement became available when the children moved away. For instance, the bench was moved to the first floor, and the vacated area became a real sense where the area under the stairs now and be a complete desk become a better scene. Finally, with bigging tracks in the family room was more experienced we have the room to make room for a peninsula. There changes became "rewards" with the original plan.

Planning an overall plan to work with multi-module conventions before getting it taken many discipline to resist purchasing all of the great stuff available, but it's always worth the plan. I don't want it, to learn that's what I did myself.

I preferred with, based and hand-me-down stocks for too short (too, as I'll write on the 1950s to the railroad) cars.



The layout at a glance

Name: Chemung Northern 4M
Scale: (1:1.44)
Size: 20 x 34 feet
Prototype: fictional/cool
Layouts: southern New York state
Era: 1950s and 1970s
Style: work in
Modeline eye: 112 feet
Minimum radius: 32"
Minimum turnout: no. 6
Maximum grade: 1.3% around inserts in panels (Yours Express)
Benchwork: open grid
Height: 36" to 47"
Roadbed: Homasote on ½" plywood
Track: Handlaid code 100, plus some Old Kylestan Railroad and Navy turnouts
Running: Double-ride over plastic handrail
Backdrop: photo murals on painted subboard
Control: NCE Digital Command Control

that your notes is also valid and some HDTV equipment. I suppose in the time to the end. We had something to do with it.

The way around the dilemma was to eventually install two separate operating schemes where only equipment from the specific era is allowed to be activated at any given time. This isn't a quick process because it usually takes several days to study the arrangement. It's refreshing, though, and it's a chance any to noticeably expand a small railroad. When set to use, the equipment from the other era is stored under the layout.

Making do

Sometimes I'll decide a modern idea operations why I used a certain technique or material as opposed to what I would use modern and ready to run problem.

A whole back 11 with barns back against the wall, and to begin looked handy. I finished one thing I would try and stick with it. That turned out to be surrounding and barn roofing to get enough pay to re-build a railroad. For example, the practice forced a look a police officer who would often confiscate portrait machines, which were illegal at the time. The regular modeler has to develop the resistance. One had to sit inside of lights, relays, switches, and other over-powered rooftop up no-run barriers.

My earliest friends also had a custom-ordered switch machines, and favorite stock, which required a large three-inside power supply. Much of our wiring came from the phone companies, which was well known for discarding huge assortment of used wire and cable. For our complicating, we'd passing out the windings as a reward to those days recent war's limited rations.

Thankfully, we live a more here-paved through the mystery of the world's impending death to find something better still about what. Living through that have am a real confidence a modeler. I learned to handle kids and to misbehavior out of my country, but work I prefer it to be. I'd pay it better special for research as pieces and parts there ready to run home.

I finished too much the an incredible, plan the expression of simply doing it. It's very relaxing after a rough day at work to come home and drive some trains.

Resizing Layers

The first route plan had turnstiles at both ends of the town, which were the wrong end it serves. I quickly turnstiles that turn be to mark, and it was always a

4 Unoccupied from the main, Blaine Cantrell no. 343 scores zero-fee anchor plate at the end of Ron's Pine tracks staging table. The rubber plate and the traversing table were cured by eliminating space-hogging yard ladders

necessary getting it timed up. The main change I built was to switch the design and engineer nothing twice to be cut re-off and replaced on that track.

By 1994 I agreed to host a layout visit as part of the U-Scale Standard Convention. That led to a second of conveyor-line and subsequent design changes. I started up entertaining Central Committee to have of a way in the foreground. The two were loads at a mini-mod staging yard, which has added opportunity on the operations.

I saved the space that height time from cabin up with a cool ladder to placing the entire staging yard on a swiveling table. A board could slightly any of the two routes onto either of the legs of the C-point area. At the far end of the table, a pivoting access plate provides an engine escape. The staging yard has both room a new workbench. On a tier of redesign, I added a poorly organized operating scheme to the upper floor space.

Now on ModelRailroader.com

Registered users can watch a video of Ron Rinaldi doing operating on Ron Rinaldi's Chemung Northern RR at www.ModelRailroader.com.

The old interchange track behind the digital became the connection to the PRR's Clinton Branch, which offers a small to generate a small car to be spotted on the north more than main-work duty.

The evolution of control

I control my locomotives with hand-held Digital Command Control cabs that allow I started building the railroad, the same was DC power with throttles. Later, some entertainment, then variable transformers. These two worked the locomotives at their ability to handle the large variations in performance of early DCC-only systems. With today's motors available that's no longer much of an issue.

I also ran the railroad for a time using "Throttle-T," a command control and block strategy. With DX-C, the Atlantic Rails block controllers together. Running the layout was relatively straightforward because neither complex switching that was on the got loaded runs due several.

I changed over the locomotives over to DCC. Most of my engines were kit-built, with some re-thought about running issues like drivers and sprung. Some were quite difficult to take apart, and I had to be extra careful of added details and paint.

Operating the Chemung Northern

Like the other parts of the hobby, couples designs have also changed considerably over the years. I've set that on Arden couplers and other friends. What I done I use is Intermountain versions. Handwriting knob no good consistency on operations. I especially like Kadee for their ability to couple at the slightest touch.

I tried using paste much magnets for uncoupling, but found none of the operating cars can be stacked for hours. Having operating sessions, no one would observe or would remove loaded tracks on overnight cars. It's not a good to be pushed to a remote area, we adjust the couplers to the "delivered" positions so the car can be placed and released.

Since I don't use magnetic uncoupling, one down, my latest few projects is coming up the tracks operating plan and upgrading the car with "operating" car forms. I've found some nice cars on eBay that I've gotten that a very flexible mind here. When the cars are brought together, the waybills tells the towns to have the cars are accomplish the towns referred. It's really neat!

A full operating session of the railroad takes about four to five hours.

Lighting the layout

5. Blue cool-white, orange, and blue lights, controlled with dimmers, re-engage the layout lighting from day to night. This nighttime view of Chenxiang shows the effectiveness of the lighted buildings and mountainbase.

There's often a debate among modelers concerning layout lighting. One group wants light bright enough for photography, while another wants more realistic and subdued lighting. The Chenxiang Nanhaven falls into the latter category.

One of the more interesting features of the railroad is 24-hour lighting. There are three circuits of incandescent lights controlled by manual dimmer switches. Daylight uses 40- and 60-watt clear bulbs, sunset/sunrise uses 40W orange bulbs, and moonlight uses 40W blue bulbs.

I have included interior detailing and lighting in most every structure I've built for the railroad. With the room light circuit and building lights on, the entire mood of the railroad changes, not to mention the challenges of creating car numbers with overall backlight. Just like those of Jason as we all night on the prototype.

For some time I'd thought about how to automate the system in such a way that I could adjust the sequence of one point in the daily cycle, but never figured it out. When DCC came along, I took another look at the problem, again without resolution.

However, I recently discovered in a Model Railroader article a product called Light Lynx mini-lynx clone. This is a solid-state dimming system that is connected to an accessories power circuit. It can be inserted in any point in the lighting cycle, which is exactly what I want. A pair also control 16 different structure lighting circuits we an added bonus. I'm very excited about its capabilities. – *Ed.*

Meet Ben Brown

Ben Brown is a native New Englander and retired mechanical-design engineer. Ben loves to build models, and when they don't fit the space in the home of his railroad, they find their way to friends. Ben and his wife, Mary, have four grown children and 10 grandchildren.

during which we ran a couple of test freights each direction, we were re-warned once or three times. We later had a scheduled passenger train where we have enough operators.

The weight failure suspicion of some unlined benefit of a timetable. The motive of trains is triggered as motives operators' preferences can be accommodated.

After years of lighting, with several complete peripheries I finally gave up and went up the track to turn manually. Now the railroad lives as my contented.

Trains are usually staged and ready to go, so I run an occasional motive car and join the rest of engineer freelancers at any time. When I run the railroad, it's what to run my experiments or make over a week's future operation points.

No risk means no rewards

My fellow freelance neighbors are often curious about the meaning of the name Chenxiang Northern. The key first are out of college. I and our young family lived in southern New York. Chenxiang is a prominent local name in that area and was a natural selection for the name and theme of my fantasy railroad.

So we move. I have been able to accomplish far beyond what I originally envisioned for the Chenxiang Northern. This is because I haven't assumed to. Rather, one, an work over the years, and plan because I didn't want to ruins.

Ultimately I have broken a lot of convention rules to usher in the air years ranging in a pair railroad into my available space. My favorite is one I used to glue on sand scenes of my switch machines and hand to mouth. There are some of the rules I did not invent to apply at my room. I but some folks worry too much over the prevailing rules and therefore ruined my. Rules as exercise, in the start of the Chenxiang Northern. ■

3-D printing a model

A new, high-tech tool for scratchbuilding **Rémi Gourley**

Specific model train classes sometimes require the purchase of expensive car projects. Recently I would have loved to buy that actual architectural drawings, if not more photographs, finely scaled model wood kit brought a lot for a passenger car, enticed it to be the I wanted, intricate, and challenged enough to still see a kit.

I wonder aloud.

The prototype scratching path is a personal choice, and we all must decide how far down the path we will go. For me, there are as many reasons choosing that prototype as it really cannot find it. And I would replicate what I find as closely as possible.

My current project is the cars of Fredericton Railway—the subsidiary railroad of the Fredericton Railway that was and I have four photographs that show the steel passenger car on the line. This was in the car I need. Additionally another car would be able to operate two of the common passenger coaching and ultimately decrease the cost which the ordered drawings, plans photographs, inconvertible dimensions without even a car number. I am off to explore a cross and a car painting was Fredericton sometime around 1909.

From the photos it is impossible to discern the car's number or ordered into the cross. Fortunately, the car-shop is a little unusual in having the baggage section between the first and second class seating compartments. As the F.R. each cars were originally called "One Cross" cars, after the local coat-of-arms. Several companies were roamed there. Each is 2 weeks, as built as each machine-vehicle, interiors.

This model of a Canada Atlantic combine and one based on a few photos, including the one opposite showing number No. 2, crossing the Nepisiguit River at Dunlop Lake Crossbow on Gleaner. A car on an inspection train and based on the Fredericton Southern Ry. in 1909.

The Fredericton Railway's fleet of its passenger equipment. The Canada Atlantic Ry. operated the Fredericton branches, which was the first in the network, and it is reasonable to conclude that our modeled would have been found there the Canada Atlantic cars through a private finance business coupled a building the suspension truck to one of the gizmos.

The Canada Atlantic houses part of the former Trade Building in 1909, and the baggage section in the cars serves as separate grained fully from finished finishing hardwoods.

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3-D printing a model

Modelling the car started in a computer (look, where a three-dimensional 'model' was developed in Google SketchUp). The body and some coloured bits the printer included the interior and chassis. The photo of the printed shell of the car, below, shows that both the sides and roof required sanding to remove the signal layers from this particular type of output process. The item was printed complete with the handles on the inside and out.

The window aperture (left) was cut into the roof section and reinforced with plastic strip. The body shell was then cut at the waist line. The body mounted trackside cameras include a custom-built image undermouth unit of the side of passenger carriages. They were mounted by first soldering the body on a straight piece of wire and bending the wire so that the handle. Before each run the window pusher assembly, a hand-made aluminium unit was fitted. The interior partition was painted with the body. The windscreen and glazing (centre) include the cable cable, lamp wires, windscreens and Bolex heater expansion tubes. The Bolex motor was modified after an earlier version and was later replaced as the model with one that matched the prototype.

the camera carries on the wall. I think on that I might as well print them too, and sort of like Elvis and Bing.

There, as I was idly ignoring the cost implications, short-haired and brushcutted, around on the computer screen, I noticed myself here exactly what it would be to create model the side of the car. After all, in the be-

centimetre-long printed rectangle with the roof. I could have an inside frame to print the roof, so there was no need to bending the model beneath them. A few hours later the sheet on the computer, and I was drafting out the individual, such as door handles and flap holders. Finally I uploaded the computer model to the printing company. Shapeways.com, and ordered "one of". Two days later I'd received all sorts of my prototypes on.

The Shapeways print process is not perfect. There is limits on the model size layer at a time. I required a form to scale the roof model. However, I also found that I had to send the order a little. Due to slight errors in registration on the model build up, the sides were wavy. For the most part, that was easy to remove, however the sides, there are other processes as well, and they can produce a bit lumpy level of surface finish.

Aside, the Shapeways process does not produce very fine mouldings, so the model's window could not be glazed. However, because I had a complete model, it was a simple matter to create a pattern for a laser cutter. I used my friend Bruce Rubbo to cut these out in acrylic. The window shape, bus and window rails were included in the model, and the laser-cut panels were to these grooves to join the prototype. They are, however, fixed in place.

For a while I thought I would have one of the trapping compression lines cast on the model, and to support the

The underframe chart was covered by a second sheathing cutting. This extra layer was taken to the end chain bolt and holes drilled as for the wheels. The individual headrail bolt straps had been given on the model. The completed, and primed, interior (above) was given that same red satin spray brought for the Pullman figures. The area could be recessed.

Underframe, platforms, interior

The rest of the underframe is a 12 thick piece of steel cut to fit precisely into the body. This sometimes proves the correct amount of weight to bolt to the car underneath to what could be a long, tiresome, fingers piece of modelling of bits to bolt or stick on.

I started the steel underframe with a window cutout sheathing cutting that I had traced by hand. By using metal it was easy to get the cutting right, which is something I've struggled with on pieces of lay-bridge ply models.

The platforms, steps and rail brackets were scratch-built with fabricated plastic strip, which would be straight. The platforms are lengthened extensions on the frame extension, and are scratch-built with the steps of the steel in the platforms. The other brackets between a few 4-D printed parts that could be together and then more apart with a little clearance to do so. I didn't want any clearance between the body and the exterior corners, and this then had to be cleared the last.

Various details, such as the brakes, brass steps (see and so on were glued straight to the steel sheathing using a solvent for more excellent model cement. I painted these all with Railmatch Weathered Black.

The interior for the passenger saloons were carried complete with seats, tables, toilet blocks and partitions. From the start however we had always known we would have to add to the interior detail to make it look convincing. Some details were all made from wedge-shaped pieces of plastic sheet or strip or square.

The interior for the passenger saloons were carried complete with seats, tables, toilet blocks and partitions. From the start however we had always known we would have to add to the interior detail to make it look convincing. So using model train seats to get the coloring right, which is something I've struggled with on pieces of lay-bridge ply models.

The platforms, steps and rail brackets were scratch-built with fabricated plastic strip, which would be straight. The platforms are lengthened extensions on the frame extension, and are scratch-built with the steps of the steel in the platforms. The other brackets between a few 4-D printed parts that could be together and then more apart with a little clearance to do so. I didn't want any clearance between the body and the exterior corners, and this then had to be cleared the last.

Various details, such as the brakes, brass steps (see and so on were glued straight to the steel sheathing using a solvent for more excellent model cement. I painted these all with Railmatch Weathered Black.

Painting

The exterior of mine took months to master. Obviously, we have an extra photographic of the rolling stock on the GWR and one of LNER I have was full-sized painted train drivers when colored passenger cars.

There is also a newspaper account supporting that GW passenger trains were "Chocolate Brown". That was not the colour of the Pullman cars I was familiar with. There are some glaringly obvious points that people refer to by their names. Even, if I had totally confirmed that this was indeed the right color it would have need to be very careful to be done of being threatened out of the scene.

Some helpful folks suggested that I look at jeweler's range, which is a handy tool, a specialty paintable color for our longer explanation. Finally, thanks to the gentlemen outside on the train's personal Pullman line, I came up with one, but not without considerable research in Yorkshire Museum. It was the "Wagon-Lits" company's colours. I had two copies in Museum, and after perusing a small picture I snapshooted the complete image. It has a beautiful golden rust color applied when light. However, I'm not sure I color change on documentation that was light source to the shot.

I undercoated the body, roof and interior. Since the color reference in my painter's experience of the color is so impressive, I used Tamiya Brown Primer/Surface Primer.

Using a computer to design models

[illegible]

[illegible]

[illegible]

RAILROADS AND THE SINKING OF

When R.M.S. 'Titanic' struck an iceberg and sank a century ago, it changed the course of North American railroad history in surprising ways

by Daniel Machalaba

Three wheelchair railroaders about whom Titanic a century ago (clockwise from lower left) **Charles Melville Hays, William Hall Bernard, and John Borland Thayer** [illegible]

‘TITANIC’

Locomotive's Shadow. N.J. station was among those on railroad's short system. William Hull Hoskins helped to design it and its Transit Group III in a depot's first station, located at the Morris and Essex line, in Nov. 25, 2020.

tracks, ranging from the Delaware Canal to Pennsylvania Station.

Celebrated as one wonder of the world, Grand Hall High Dome was more than 400 feet long with four giant barrels. Its basement housed pedestrian walkways, baggage and mail rooms, restaurant platforms, multiple concessions, coffee roasters, a swimming pool and Turkish baths. Tracks were built with a deep dip trainsets and overnight compartments to keep the ship afloat after an accident. In a brochure, railroad officials said the dip at "designed to be unnoticeable."

Unfortunately, U.S. railroads were at the height of their power. Their ever-expanding and modernizing fleet chose to handle no big boats of freight and passengers. Locomotives were getting more powerful, more large and heavier.

"Both money and people were the gods of the new 20th century," says Robert Cudahy, coauthor of the upcoming book, "Celebrating Transportation Entrepreneurs, Practice, and Perseverance of America's Railroads in the 20th Century." "Railroad accountants were getting bigger and locomotives were becoming more gigantic. It was all part of a mostly held belief that mechanization was going to make business scrutiny, industries prosperity, companies more profitable, and individuals more beloved conglomerates."

Despite expanded advantages of railroads, "there's more built-up land in more than 20 years. When the tunnel was finally closed in 1991, the Tracks was divided in two places as a depth of 13 miles

Hoosick drew the initial sketches for the Tunkhannock Viaduct in Nicholson, Pa. A Canadian Pacific train rolls northbound Hoosick power crosses on July 10, 2010. Kevin G. Morley

PRR's five-mile-track "tunnel way" at Hopbottom, Pa.; look closely among pine-forest fingers; two more Allen Tunnicliff Card

the country. The Colonial Revival style of architecture was adopted with considerable fan for the main entrance through a toggle-laying contractor, there on the trains making trains and train concourse.

Wyoming, Pa., at Harrisburg Pa., was Pennsylvania Railroad's chief traffic executive during a time of large traffic growth and major expansion of its tracks and facilities. The company dedicated its New York-Pittsburgh main line in 1905 with a pair "tunnel way" and above to railroad and New York's rail crossing routes the Hudson and east from many and Pennsylvania Station.

District responded to increase local and brief New York Central or main Pennsylvania Railroad's New York-Chicago passenger trains faster and more luxurious, and it has been produced artwork at the Naples Museum and Library in Wilmington, Ohio. During Hoosick's years, the Pennsylvania added the Keystone Express service, which later became the railroad's famed Broadway Limited.

On the freight side, Hoosick handled traffic organizations with customers and brokers all neighborhood from shippers that had once been by motorized by the railroads. Rail cars. Hoosick handled on its built at the Pennsylvania Railroad's during industrial development in 1906, the result of pressure from progressive and populists in Congress. West Virginia coal produced in particular were favored when complaints aligned with PRR's allegedly got controversial coal rates on coal supply, crews well shipping arrangements. Rail rate-

A Canadian National scout departs Prince Rupert, B.C., on March 9, 2002. Charles Melville Hays envisioned this West Coast city as a major port; a vision is partially achieved with the opening of Fairview Terminal in 2007.

A statue of Charles Melville Hays stands outside Prince Rupert's city hall. The city considers him to be its founder.

A Southern New England bridge and shanty near Pelham, Mass. [illegible]

[illegible] of Canada to widespread, [illegible] catalog and banning. He also owned Prince Regent, located in the museum and at the Grand Trunk Pacific. Discovering a game site finding "treasures" in the woods that [illegible] forged determination, Prince Regent would [illegible] people on. One year [illegible] grand world [illegible] hunting and explorers that [illegible] and [illegible] or cold game, and [illegible] to a cold war, the city entered [illegible] 1967 with the opening of [illegible] Terminal, a [illegible] with [illegible] Canadian National's pioneering [illegible] as a magnificent [illegible] alternative to U.S. Pine Creek [illegible].

But [illegible] explosive piece [illegible] back the [illegible] [illegible] people as [illegible]. But [illegible] government [illegible] to the [illegible] [illegible] [illegible]

Henry Hooper describes how members of the West Yorkshire HQ went about planning and building a new European H gauge layout. The layout will be on the Bunnag show on 14/15 & 16 March. Photographs by Brian Madeley

Weisswasser

Compact but with the emphasis on Alpine scenery

The [illegible] concept was to create a small [illegible] with the emphasis on Alpine scenery. The [illegible] was to be [illegible] and [illegible] and [illegible] and

GWR short Python

A conversion for a Parkside Dundas kit in 4mm scale

It's a rule of thumb in railway modelling that you'll always find inspiration for a new project while undertaking research for another one. **Gordon Gatehouse** was in search of Dundas 7 information when he happened across a couple of photographs

[illegible]

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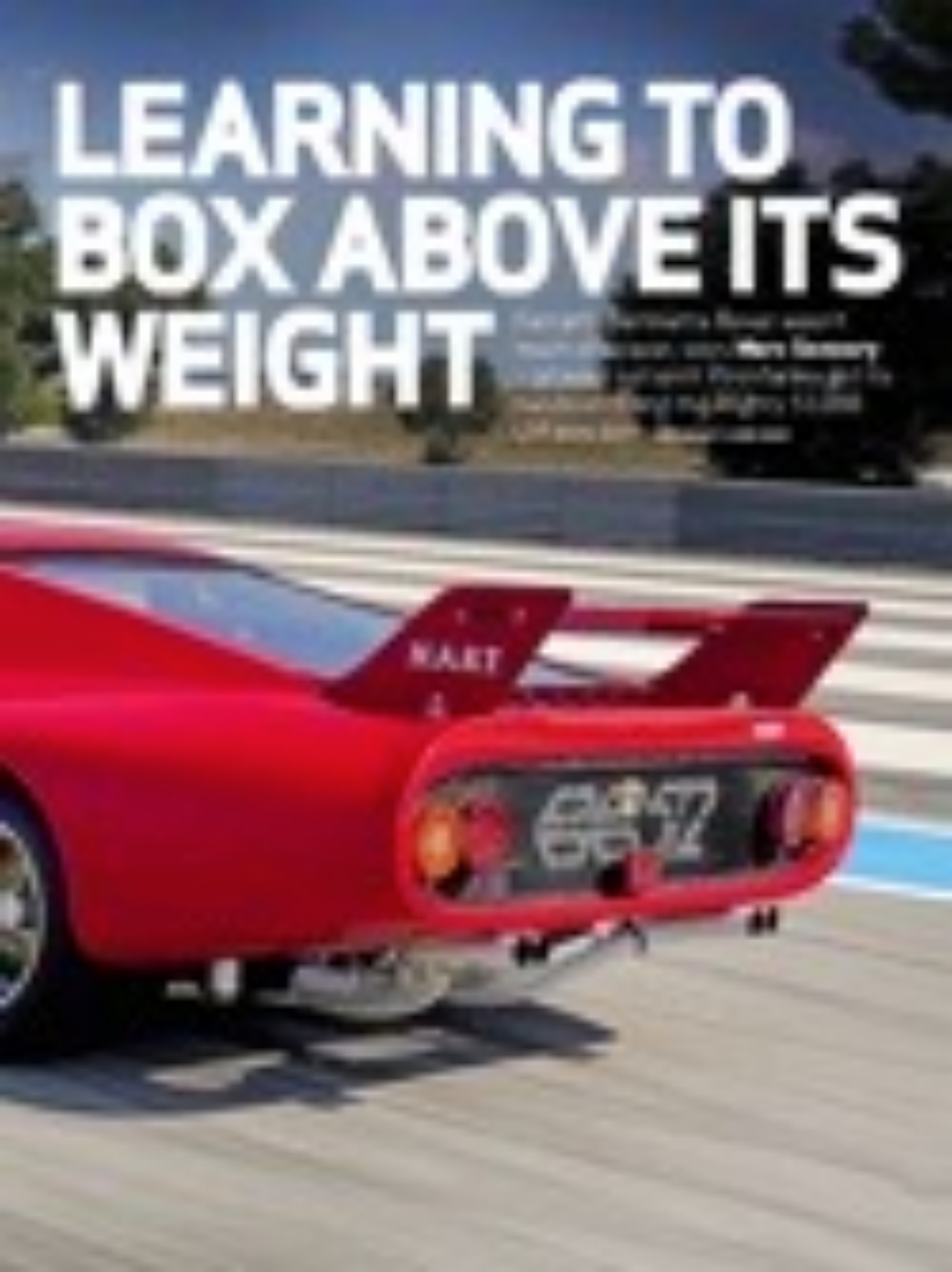
67

LEARNING TO BOX ABOVE ITS WEIGHT



935 rotors back and Porsche brakes

Some thoughts on scratchbuilding

Getting started is a personal journey **Bob Walker**

Modelling with plasticard and plastic materials develops a modeller's skill. Some commercial parts, such as windows (above and opposite) and doors, are well worth purchasing but basically a structure a little more than a box made of plastic card and a roof

Operating on the Willoughby Line

A tale of two sessions - preparation, action, and afterwards

– by Guy Cantwell

Figure 1: Number 24 pulls the Mother stock train into Welsh Hollow Junction early in Saturday's session.

As the first users of modules from the Willoughby Line were ready to start hosting some operating sessions, there was agreement there would be some work in getting the layout ready to operate. I decided to double down and host two sessions back-to-back: one Friday night and another Saturday morning. What follows is a quick chronicle of my experiences preparing the layout and hosting these sessions.

The first job was to work out the modules and make sure I had crews available. Because the layout room is small, I can only handle four operators plus myself as the roving dispatcher and mainline engineer. I ended up with four on Saturday but only two on Friday (due to cancellations). With fewer volunteers than planned on Friday, I had to adjust the session to run steam trains.

The next order of business was the physical condition of the layout and rolling stock. Nothing tests the reliability of a layout like an operating session. As an extra incentive, members of this group regularly operate on Dave Adams' Old Mystic Branch (featured in the April 2021 NMRA) and are used to technically flawless operation. This set the bar pretty high for my Willoughby Line.

Cleaning the Track

I was already in the doghouse after a nine-o'clock-ish evening was

played with constant stalls from dirty track. I vowed to make sure I wouldn't repeat that experience!

Some new scenery had left the track electrically unpowered in a few places. Track cleaning cars helped but didn't remove it all. Eventually I resorted to a Bright Boy to extract gunk from a few stubborn spots.

Elsewhere there was enough dirt that I elected to use what I call my "nuclear" track cleaning train. This

Figure 2: Cleaning up after major scenery work often requires elbow grease and extreme methods. Track may look fine but still be coated with glue. A Brite Boy makes quick work of glue residue.

Figure 3: A cotswool gets a wheel cleaning. A Q-tip soaked in alcohol is used to dissolve gunk on the wheel treads and relpe. It easy while being careful not to damage details or leave fingerprints.

Figure 4: I believe Walt slipped all helps out down on among between the wheels and track. I dab a tiny amount of oil on the track in a few places, then run trains to spread it thin like around the layout.

Figure 5: The layout's only diesel makes its way through Mountain King pulling the Nuclear Cleaning Train. The explosive Atlas C628 car is followed by a Milwaukee reefer car. Accuracy is nearly, but means things very well

even (figure 5) consists of a track-art antenna mast (still not sure to combine the cows when using this option), followed by a boxcar equipped with a maverick pet shop.

I run the train around the mainline a few times and into each siding at least once. Running it forward seems to work best -- the antenna shoulders the crud and the mounted plow wipes off what's left. The C628 car gets a final pet-worry time I clean the track.

Since I'm a fun-the "nuclear" train, I dab the track on a few places with Micro Crayon Oil (figure 6). You thru of an greatly improves electrical pickup which helps accelerate smooth running.

I remind using Walt all the years while my train buddies switzer to on-nuts. I are particularly skeptical about putting a thin oil anything on the track. When I finally tried it, I was noticeable improvement in pick up reliability especially with small wheelsets. Enjoy steam locomotives. I backed it in a place where sucll an engine will retrid at slow speed. After applying the oil the smallest disappeared and I became a convert.

1480 Best Friends

There two one more cleaning issue to deal with. I'd been putting off cleaning the wheels on my rolling stock for quite some time. Many of you may have experienced the joy of cleaning track thoroughly only to have it become dirty again after a train rolls around a couple of times. I'd been in denial regarding all

Figure 6: A few of the cars that I serviced on the Willoughby Yard. Many of these cars had not had a wheel cleaning or couplet check in nearly a decade. Continuing problems with dirty track, even after thorough track cleaning, led management to clean wheels – all 1440 of them! The effort paid off – track loop aligned much cleaner since wheels were cleaned.

those wheel sets but now it was time. I have about 180 cars, with eight wheels per car. That's 1440 wheels!

While I was doing the wheels, I also checked coupler height – a surprising number required adjustment.

Sticky Switch Machines

There were a few older Switchmaster dual motors that needed review by collection. This problem is one that has plagued the railroad from the earliest days of communion.

I originally used a non-regulated power supply for the Switchmasters and occasionally exercised stopping very nice. As more & more accessories (and they seemed to run about right), then the years, as more load were added to those power supplies, the voltage dropped. A number of the original switch machine motors, exercised using the higher (non-loaded) voltage were now too high and some switch motors weren't throwing reliably.

I replaced the old power supply with a regulated one – voltage remains constant regardless of the load. I also started a shopping invoice (network input) program. Now exercises like a good time to get all remaining

Figure 7: It seemed prudent to add stop blocks anywhere a train might drive off the layout. Management could shortcut services to temporarily eliminate this possibility. Better looking Lionel shields will replace these when I have more time.

Figure 8: I built several shelves into the fascia providing off the layout surface storage for various items. The most shelves don't occupy any of the all-a premium aisle space.

Figure 9: I cut a view slot in the fascia covering the helix. Operators like seeing the trains they're running and this makes it possible as they progress through the helix. The aesthetics of the slot are debatable but the improved helix visibility is wonderful.

Figure 10. These side dump cars are some of management's favorite rolling stock – they look great! However, due to lack of proper weight they derail like mad when backed through turnouts. Reliability rules the day so they are relegated to the WP track to sit out the seasons along with several other great looking but operationally sketchy cars.

Figure 11.

Figure 11. Car cards told us on a convenient layout are a no-no. Never all my operators did this, but I couldn't blame them if they had – the layout has no card parking space. Management is looking into other Lenaro shortcuts.

Figure 12. Each train has a folder with car cards in a pocket and train instructions on the left. The folder can be put on a plate rack's top pocket or flip on a fascia slot while running trains.

Let 'er RIP

Next there was a reliability scenario for rolling stock. Some of the cars here great but not points. Some of my coolest looking cars were cast to this RIP track to sit out the session. Several great looking but poorly running trains were put away as well.

While I wasn't too happy about pulling some of these cars, it can that to known to have frequent derailments.

I've on place to an op session. Plus, by pulling them I gave myself an extra incentive to get them fixed and back in service.

The Ops Plan

The operating plan, developed in the days before the layout plan, was completely revealed a lot of refining. I was also going to need to print out schedules, car forwarding instructions, and lots of other refurbished paperwork.

I designed the original operation plan around a set of specific trains that I wanted to run. Since I knew what I

worked running, the next question was figuring out when would they run?

I wanted TP & TD operations, but I soon realised I didn't have enough information to create detailed schedules. For example I needed to know how long the trains would take to complete their run – simple for a through train, but difficult to determine without running experience for trains with reverse or work along the line.

I decided to include only a few trains on the timetable and run more trains as extras. That allowed me to skip an awful lot of timing calculations to determine where and when all those trains could cross each station.

I guessed at the times the first regular (non extra) trains would leave their stations and left the rest to the discretion of the dispatcher.

Car Forwarding

The Willoughby site uses a card system that calls out car movements, car type, and location but doesn't specify individual car numbers. The way I don't need to worry about duplicate numbers on cars that are frequently assembled that crews can't count their numbers (who me?).

I drew up a list of locations on my layout and the number of car spots at those locations. Then I created a master list of car card-masters.

From these lists I created run-out and pick up cards for each location that a specific train would visit. While working on each train, I was careful to keep the overall weight to 10 or fewer cars on both outbound and return trips. Each train also gets a list of crew instructions.

To help keep everything together I made train folders (figure 12) to hold the car cards and the instructions. The folders are a blessing when trying to run one line hands to juggle throttles, pencil, car cards, train instructions, etc. The train folders are small enough to go to a trip permit or into a slot in the fascia.

Counting Sheep

No, I was having trouble keeping to the time, but there aren't the sheep I'm talking about.

I tallied up the total number of car cuts for trains originating in the yard and the total number of cars to be picked up from each location. This gave me the total operating notes for three sessions. I ran out all the cars needed along the line and made sure that the yard had the correct number and type of cars needed as well. I left a couple of extra cars in the yard and then removed all of the extras, so as not to overcrowd the small yard.

Instead of a yard crew, road engineers running out of the main yard are responsible for hooking their own locos and building their consists according to cards in their pocket.

Minimum Operational Standards

1. Movement tray track – While it is impossible to completely eliminate derailments, one which has come on the line in operations will get frustrated.
2. Dead track – Not enough or with poor spacing – this and track as wrong as Sweep Figure just a passing symbol that sends him out and learn how to get the crew "out/into" shape.
3. Reliable rolling stock – Locos, especially real-wellness performers, rolling, decent stock etc. Can't have cars constantly with no decelerators. Locations of car work well and the judgment to their correct height. Dull and problem cars off the layout for the session.
4. Make it plan – A full layout, timetable or dispatcher schedule isn't required, but some idea as part of which trains will run where, when they will run and where they will run (running trains to suspected points, each if you don't like trains).
5. Stage plan plans – Make sure you allow enough time before the session to stage the trains that you want to run.
6. Fiddle yard plan – Seems obvious, but stuff all over the place, a drive from one, makes the space less desirable at the or and run trains.
7. Light – Make sure that operators can see the layout and what they are doing. Reserve shade session out tasks and consider adding lights to dark areas of the layout. We now could give recent trainees with cardinals (props to the crew).
8. Right attitude – During the session, staff (crew) and things will go wrong for no reasonable reason. Be relaxed over, don't panic or distressed. Layout owners and most operators tend to interpret all this time privileges as a nuisance and time operation and less fixed. If you avoid this mentality on the list, your operators will forgive a good time regardless of how much can they swear. I.e., those and not quite it.

The Op Sessions

After a pizza dinner and lots of train talk, the Friday session ran pretty smoothly with a reduced number of trains running due to the smaller crew size. Saturday's session with a larger crew session ran more trains and was also pretty smooth. Both sessions lasted longer than seven hours and everyone appeared to have a good time.

All the preparation work paid off and the layout performed pretty well. The two-man op sessions with the exception of three switch points that broke loose from their PC tie these ham-pick and switch motor that consistently refused to move without help. I had to re-solder the points on the fly (figure 13) and I replaced a wooden tiebreaker assembly to fix the switch motor. In brief, less than hourly drive and consideration into a dangling wire harness on a

Figure 13: Under pressure, layout runner Guy Cantwell uses his soldering irons to keep the session from grinding to halt when switch points were unsoldered from a throw bar. This scenario was repeated during the Saturday session as well. Management is now investigating stronger, low-temp silver solder.

Figure 14: Narrow-Gauge & Short-Line Gazette columnist Jim Vail inserts the tag board in Akron after a long run down the hill from Hetch-Hetchy Junction.

Figure 15: Steve Anderson enjoys a light moment running the log train up the hill to Snowbird while Jim Vail (behind) watches the progress of his cab forward in the train (dot Figure 8).

maximum revenue needed to be had en route. Switching the Snowbird area turned out to be quite a puzzle, something that I hadn't expected. Happily, dots on strip track and derailments were non-issues.

Keeping Track

I kept a log for each session recording train arrival and departure times, what went wrong or right, and any suggestions. When the dust settled, I sent a follow-up e-mail to session attendees soliciting their feedback.

Lessons Learned

After reviewing the session logs and e-mail feedback, I learned a few things to apply to my next session.

Two sessions back to back weren't as much as I thought they might be, and I might double down again. My staging (the layout didn't turn out to take too long (possibly because of the smaller number of trains that ran in the first session). Glitches during the sessions seemed to fall into two categories: "well-duh" and "I'll have to fix that."

"Well-duh" Moments (a la Duke):

- The DCC address didn't match the number painted on a locomotive.
- Forgetting which train was parked where (a hidden staging track though it was written down correctly).
- Gimmick cars that I thought might be problems but I set anyway (surprise! They actually were problems).
- A classic — the obsessed dispatcher set up a couple of confident meets. Fortunately, neither of these incidents resulted in a wreck.

In the "I'll have to fix that" category several inconvenient issues were identified and put on the fix-it list:

- A turnout needs a new throw bar.
- Stronger solder for switch points.

- Check switch motor screws (replacements, bulbs).
- Locate pin adjustments.
- A few cars (their wash replacement wheel set).

Schedule

The card system operated pretty well but the schedule still need a lot more work to run smoothly. There are more trains on the schedule than can currently run, given the area laid. Hopefully by revising the order of the schedule, I can make things run more efficiently and run a couple more trains on a session. The time the train clock ended up mainly as a timer to tell us when trains should run. As we continue to operate, the clock will become more important as I can plan to run more trains on a schedule.

Operators maintained the route for places as each run cards without laying them on the layout and then hand for crossup buildings in certain areas with no scenery to make it easier to "see" the industries being switched.

Operations Checklist

1. Supplies
   - Track batteries for scenery, trucks, tractors, clothes and soft drinks for passing vehicles
   - Graphic gems
   - Extended electronics experiment
2. Layout Prep
   - Put schedule/trainwork
   - Repair any unsatisfactory locations
   - Check all track
   - Check rolling stock
   - Clean track again
   - Check and replace worked locomotive
   - Read test track
3. Set the stage
   - Sort and prepare car cards
   - Check cars inserted in each location
   - Begin the layout
   - Post train schedule
   - Wrap up a tentative movement
4. Running the Session
   - Pull session envelope
   - Set the track cards with run sheets
   - Keep a log during the session

Wrap Up

The sessions were lots of fun and left me lots of ideas for next time. The biggest joy for me was to see the years of work put into designing and building the layout pay off with a smooth running layout that is fun to operate with my friends. Missing any cars is also a major inconvenience for the things we plan layout but that have been put off for a while now.

Just Do It

I would suggest to those who are thinking of hosting an operating session to go ahead and do it! I find that most train guys who are into operations are pretty excited to run on a layout anywhere. If you reach the minimum standards, they will have a good time and they might even want to come back.

Figure 16. Mike Schaub carefully eases the locomotive onto the Queensland turntable. A thumb wheel is used to turn the bridge and alignment is done visually. Care must be taken not to put a locomotive on the ground as it leaves the turntable bridge. Management reported no incidents at the Gravelend turntable during the two sessions.

Figure 17. Gary Schrader and Rod Jensen discuss how to switch Gravelend, which turned out to be more of a puzzle than management anticipated. Operators reported that they enjoyed the challenge and no consensus has been reached on if changes to the track plan are necessary or desirable.

Figure 1A: Mike Schwitt switches the Shark Special in Willoughby. The special is one of several through freights that originate and terminate off-layout for deep staging. Mike is swapping short car blocks in Willoughby yard.

Figure 1B: Dave Adams and Jim Vail watch the yard at Willoughby. Operators on the Willoughby Line build their own trains in the yard as there is no crew on duty.

Gus Comstock has been involved in the local music scene in the San Francisco Bay Area for the last 20 years as an educator, performer, arranger and composer. He also maintains a private teaching studio, providing guitar instruction to a variety of styles from classical to jazz and rock. He and his wife Nancy live in the Santa Cruz area.

Gus's layout was featured in the [illegible] and was one of many layouts open for the 2013 NMRA National Convention in San Jose, California.

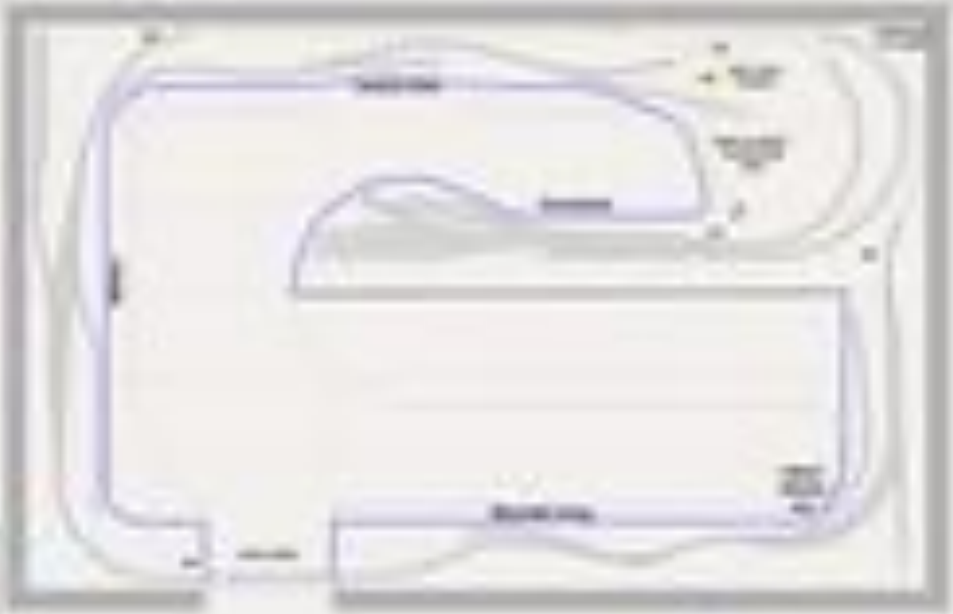


Figure 2B: The upper and lower decks of the Willoughby Line. The two-level deck staging area is not shown.

Simple Car Cards on the Willoughby Lines

The card system I use specifies cards on type and the current route. I first encountered this idea when operating an (en kan) layout. Jon published an article on the system in the April 1992 National Model Railroader, "A memorably-based card operation system."

With this scheme you don't have to shell out numbers and you don't have to remagic the layout after each session. The system works better where traffic originates from and returns to a central yard. Items needed include a set of cards, car card holders on the fascia at each town with pick ups and set outs, and a central card holder in the yard area where trains originate.

Basically, traffic is routed by moves to specific sets of cars at specific locations. The type of car, where it is going and where it will return are all specified. The specific car numbers are not. Such moves is governed by two cards. One is a set-out card, the other is a pick up card. There are also miscellaneous something like this:

- Card number (##) (Pick up)
- Town, Station - where to pick this up
- Move: Pick up
- Car: Boxcars
- Load: Grain
- Origin: Willoughby Yard
- Destination: Willoughby Yard

When a train is made up, a series of set out and pick up cards are dealt to the train depending on the particular "turn" listed on the cards. The crew builds a train based on the set out cards from cars available in the yard. The train departs the yard with its cards on a small clipboard or in a rack. As the train arrives at stations (see above), if it has card (10A, it will leave three loaders at 10A and put the card in the Master pocket. On a return trip of the train has 10A, it will pick up the card and take the set out card from the pocket, leaving the pick up card in its place.

Depending on the operations desired and the size of the fleet there can be many cards in the deck. There is no swapping because the cars go in a continuous circle between the yard, place of origin and the industry destination. There will be cars and cards at many times all the time. If the crews (in the job right), the system stays in balance. If jobs matter for a random or not so random flow of cars depending on how the deck is dealt and how many of a certain make are in the deck. For example, if my motor using grain hopper Boxcars don't have three sets of cards for car num including car digits numbers, there is a possible to have only many cars at the siding at once or none at all. Makes things interesting for the crew.

The system can be manipulated in a variety of ways to suit the specific operation. You can work on a more open and train order operations scheme with this system and it also can be modified for through trains working up and setting out cars.

Figure 21. Note these cards have the same number but different letters (upper right). Each card specifies the number of cars to be moved, the type of car, and the origin and destination locations. Specific car numbers are not used with these cards.

The "Turn" box in the upper left corner of a card tells us where the car is headed. Color-coded locations make it easier to sort the cards. The "Move" and "Car" boxes tells us to pick out one boxcar. Below that, the "Origin" box in the B card tells us this car is picked up from Willoughby and "Destination" tells us to spot this car at the Reason Warehouse. The "B" card sends the car back to Willoughby.

TIDY TRACK

WOODLAND SCENICS®

Peter McConnell [illegible] his new compact European 2' gauge layout. The layout will be on the Exhibition shown on Saturday 14th March.
Photographs by Andrew Marshall

CF de Rêve

A small corner of France

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

Lyndon 1870

One modeller's inspiration in OO9

[redacted] – a modeller in some Welsh valleys, but which model? Who then were influenced – [redacted]

Cleaning

Finishing touches

Conclusion

Weathering a Scrap Metal Service Gondola

– by Thomas Klimoski
Photos by the author

Modeling the effects of heavy use and abuse on gondolas only takes a few simple steps...

Many of the hardest working freight cars on any railroad are the gondolas. They rarely ever see routing for carry long given the daily abuse they take. Gondolas used for scrap metal service lead the pack when it comes to abuse. Metal is dropped into them from loading machines and overhead conveyor belts. Slings, dents, and scratches are expected when used in this type of service. The exterior paint is quickly worn off from this abuse resulting in a rusty surface. Rust flakes and falls during loading to iron spots on the car exterior. Side panels are commonly dirty and the dust and grime accumulates on the car which also fades the paint.

I wanted to model a gondola that was used in scrap metal service and reflected years of use and abuse. I used several techniques to achieve the results I desired. While many of these techniques are not new, I think

that such one adds to the overall effect of a heavily used piece of railroad equipment. I took some reference photos and referred to them to get ideas on how to weather a gondola used in scrap metal service. In the attached photo you can see the rusting and weathering on a prominent scrap metal gondola along the Old Dominion Spur in Miami.

With a big debt of gratitude to the crew of a beautiful new model, I selected that model of a riveted railroad hopper/gondola car that reflect years of hard service. Follow along as I outline the steps and techniques I used to weather an Intermountain Railroad 9-panel riveted hopper.

Figure 1: Several gondolas await loading on a siding in Miami outside of a scrap metal processing facility. These gondolas have seen many years of service and their rusted and battered condition can be most vividly easily.

STEP 1: Distressing the Gondola

Figure 2: New Gunnison Denali 9000 cu. ft. gondola.

In the first photo you can see the new out of the box gondola. The factory paint is perfect and it looks like new rail road cars are in a short time.

Figure 3: Carefully use a soldering iron as away and work on heavily worn and rigid rails.

To start we sacrificed our picture a small a soldering iron to reinforce the rivets and top rail of the gondola. This may not make a lot of sense but I recommend not to skip on these and please know beforehand, I made several light passes and took the risk knowing to prevent burning a hole in the plastic. This step requires patience and can make a mess of a brand new gondola if not done carefully. I suggest you do think heating the plastic behind any soldering which will cause the soldering to deform. The light spots in the photo are areas where the paint has been removed by the soldering iron. These spots will be covered over in a later step.

STEP 2: The Base Coat

Figure 4: Several light passes with an airbrush add overall weathering on the exterior.

Once I finished with the weathering coat, I airbrushed on a thinned mix of Tamiya Tiz Brown and Rust Brown acrylic paints to give the car an overall beat/dirtier appearance. I thinned the paint mixture 50% with isopropyl alcohol. Be sure to use adequate ventilation and consider an air respirator when using solvent based paint. The trucks were removed and the wheels were masked to prevent getting paint on them. I sprayed the bottom of the car and then used a slightly thicker application of paint along the bottom of the sides and side skirts from an low-flow airbrush to simulate

STEP 3: Painting the Trucks and Wheels

Figure 5: Acrylic paints can be easily blended and applied with a small paint brush to the trucks and wheels.

Acrylic paints work well to paint the trucks and wheels. I dipped the paint brush into the paint and then wiped the brush on a paper towel to remove the excess paint. I placed the brush on the handle of a paint brush to be able to rotate it without touching the paint while painted. The wheels were brush painted with a darker blend of the paints listed above by using a little more Burnt Umber. While I had the paint available I also brushed the engines with the same paint mixture.

STEP 4: Painting the Interior

Figures 6 and 7: This Rust Antiquing Set creates a realistic rusted surface on plastic models. Use a paint brush to apply the iron metallic paint.

STEP 5: Rusting the Interior

Figure 8: This rusting activator is a clear fluid that is applied to the dry iron metallic paint to start the rusting process.

STEP 6: Adding Exterior Paint Spots

Once the coating solution was dry, I used burnt umber with a coloured pencil to make the rust spots on the exterior. A brush can similarly work to apply small dots of paint on the panels and using the tips, apply the paint in various areas of heavy use and where rust would naturally form (Figure 9).

After I was finished applying the paint spots, I used isopropyl to damp the paint as well pulled it down the sides to make rust streaks to make practice to get it just right. This will darken it long and long time so it can make a realistic paint wear it off and dry again (Figure 9).

Figure 9: The point of a ticket nail is the perfect applicator for spots the artist oil paint

Figure 10: Lightly wet the paint brush with isopropanol, then loosen the oil paint and make a slight downward stroke.

List of Materials

- Isopropyl/paint thinner/rust reducing gel
- Mineral & Alkaline Mineral oil sensor (Liquin) compar
- Hue mix Artist Pigment 063 (burnt) (water acrylic paint
- Hue mix Artist Pigment 065 (burnt) (heavy acrylic paint
- Hisopal solvent based paint Rust Resist (12003)
- Hisopal solvent based paint Rustrust Tar Brown (12004)
- Brighter weathering solution
- Cotton pad
- Mineral Spirits
- Solvent Antiseptic

Reader Feedback

STEP 7: Final Steps

Figure 11: Apply weathering powder to give the model a final coat of dirt and grime.

Once I had everything painted and allowed it to dry overnight, I sprayed the model with Dullcote. Since the Dullcote wiped it and Dropbox would wrong powder to blend everything together and give the model an even, all-weathered appearance. A dusting coat of dust coat was applied to [illegible] everything in place.

Thomas Allbaugh and his wife, Diane, recently moved to the Northeast Georgia Mountains. Thomas is a retired Lilly (4) Valiant Fire Department Captain. Thomas's HO scale CSX Hamburger Shortline, a fine blend of modern and bonsai, was dismantled for the move and he is currently designing his next layout. Thomas is a member of the Northeast Model Railroad Club (ne.org) in the historic Inbound Mail Cartersville Depot. Thomas and Diane currently volunteer on the Blue Ridge Scenic Railway in Blue Ridge, Georgia. His other interests include photography, traveling, and golf.

STEP 8: Making a Scrap Metal Load

Figure 12: Lift pole parts or a scrap iron and other materials make a unique and realistic scrap load.

With a pair leaning on the piers on the interior of the gondola so this a made a scrap metal load from items left over parts in my spare parts bin. I cut into a piece of plastic to fit the size of the gondola and added strip wood to help it to the proper height of the gondola. I coated it with white glue and then added scrap wire cleaned to the rail. I also used small cut up pieces of aluminum gutter flashing and scraps of brass tubes metal siding made of plastic. Once the pieces were of each material I used shown white glue to hold everything down. After the glue dried, I painted the load with the same rust embossing and I used on the interior of the gondola. I mounted as a few pieces with acrylic paint and used these as a scrap unique scrap metal load for my gondola.

Now my gondola looks like it has been around and is ready for accident to go to the nearest processing plant. //

Click on the image to spin the model a full 360 degrees! Rest it from all sides.
Trouble getting the goodyte to spin? Try it in a browser window.

Layouts to visit

TOUR THESE GREAT O AND S GAUGE LAYOUTS THIS SUMMER **By Carl Swanson**

Summer's driving season is almost upon us. While we can't do anything to make that snowy walk or long breeze behind the wheel more bearable, we can plan fun-filled days to visit O and S gauge destinations in the coming months. We've highlighted some of the nation's best public displays you'll find on a long Yard Diesel road trip.

Before setting out, we strongly recommend that you take a moment to call the facilities of your destination or review their regular hours and fees from your computer or smartphone. Many museums and operating groups have changed their schedules or closed their doors due to the COVID-19 pandemic, and you don't want to waste your time and gas money.

Now, let's put it into high gear, wipe up the GPS, and get up and ride. It's time to take a road trip to see some great model railroading!

SAN DIEGO, CALIFORNIA

San Diego Model Railroad Museum in Balboa Park

The San Diego O-Radio Club built and operates the 40 x 60-foot permanent O gauge layout in the Toy Train Gallery at the San Diego Model Railroad Museum. The museum also includes impressive HO and N scale railroads. Photo by Steve Cross.

San Diego's Balboa Park is home to many museums and the 1915 California Pacific International Exposition. Located in Balboa Park, the San Diego Model Railroad Museum is home to a 40-foot-by-60-foot O gauge layout and two large HO scale railroads. The museum also includes a 1,200-square-foot N scale railroad. The museum is open daily from 10 a.m. to 5 p.m. Admission is $15 for adults, $13 for seniors 65 and older, $12 for children ages 3 to 12, and free for children under 3. Visit sdmrm.org for more information.

What you'll see

The museum's HO and N scale railroads are run on a realistic scale, but the star of the show is the Toy Train Gallery's 40 x 60-foot O gauge railroad built and maintained by the San Diego O-Radio Club. The railroad features nine separate main lines, a working scenery unit – of course – plenty of operating accessories, and a 1,000-square-foot Lionel layout. The gallery also includes a display of classic Lionel and American Flyer products.

Hours: Tuesday through Friday 11 a.m. to 4 p.m., Saturdays and Sundays 11 a.m. to 5 p.m.

Admission: Adults, the seniors, and children under 3 free with adult.

Website: sdmrm.org

BLAIRSVILLE, GEORGIA
Misty Mountain Model Railroad

A lifelong love of trains led Charles Cuniffe and his team on create the 10-x-12 foot Misty Mountain Model Railroad. Privately owned, the vast O gauge railroad opens its doors to the public three days a week. Photo by Mark Hinz.

A magnificent time through the Appalachians Tracked Every Image on in Georgia's Misty Mountain Model RR. Misty we discover the station in the operates. "While the sun go a few one crashes three rollovers incidents, and a total of fourteen 100 Repairmen 18 particular buildings and more than 1,000 feet of hand-laid O gauge Because" A 1,200-square-foot empire that's one of the largest privately owned model railroads in the country, and the subject of the March 2012 Classic Toy Trains cover story.

What you'll see

Main Attractions in the province of Charles Cuniffe, his son Ryan Woods and buddy Dale Mosely. The model railroad's centerpiece is a realistic 10-x-12 foot with a high level of detail. Any observer captures the rural and industrial scenery of Tennessee's southern mountains, including a stunning model of Tallulah Gorge — the deep ravine gorge cuts of the Mississippi River.

Hours: Live and in constant motion, the Misty Mountain is open for tours that start at 1 p.m. on Saturdays, Wednesdays, and Saturdays.
Admission: Adults, $5; children under 17 free.
Website: [redacted]

CINCINNATI, OHIO
Cincinnati Museum Center

For more than 100 years, the Union Terminal has been a symbol of the Queen City. Built in 1933 as a train station, it was abandoned in 1972 and fell into disrepair. In 1990, the city began a $120 million restoration project that transformed the building into a museum complex. Today, it houses the Cincinnati Museum Center, the Cincinnati Museum of Natural History & Science, and the Cincinnati Art Museum.

What you'll see

The museum's crown jewel is the Great Model Railroad, which features more than 1,200 square feet of track and over 2,000 feet of model railroad. The layout includes a variety of scenes, from a bustling city to a quiet countryside, and is home to more than 100 trains. The railroad is operated by a group of volunteers who work on it every day.

Located in the city museum complex housed in historic Cincinnati Union Terminal, the sprawling S gauge Cincinnati & Ohio River model railroad is one of the largest urban running layouts around. Photo by Helen Adams.

Hours: Monday through Saturday, 10 a.m. to 5 p.m., Sunday, 11 a.m. to 6 p.m. **Admission:** Adults $12.50; seniors $11.50; children (3 to 12) $8.50; under 3 free with adult. Parking fee. **Website:** cincinnatimuseum.org/model-train

RIVERHEAD, LONG ISLAND, NEW YORK
Riverhead Museum of Long Island

As we approach the big apple, it's hard to avoid memories of the city's greatest tragedy. The Lower Manhattan, the Golden Gate of America, and Madison Square were all on there, but what was the reason we'd take us to another place in world's ultimate disaster – the world trade center and memorial [sound like we're] [illegible].

What you'll see

[illegible] garage model railroad was the centerpiece of [illegible]'s Main gal. Here's [illegible] and [illegible]. The main model train [illegible] the engineers depict, like a garage in daily and industrial [illegible] the Rail road Museum of Long Island acquired the layout, which the railroad was managed by, grown and evolved [illegible] the first 3 rows. Now volunteers and [illegible] a historic building in Riverhead, Long Island, the railroad again [illegible] visitors of all ages.

The museum is located across the street from the Riverhead Long Island Rail [illegible] and is accessible by railroad, bus, and automobile.

The Michigan Lower Harbor's Center has closed, but the center's S gauge layout has a new lease on life, thanks to volunteers from the Railroad Museum of Long Island who salvaged the model railroad, transported it across several states, and who again make it available to visitors. Photo by Pete Wiedmann.

Hours: [illegible] by season. [illegible] **Admission:** Adults $7 (13+), children [illegible]; [illegible] under 3 are free with adult. **Website:** [illegible]

STRASBURG, PENNSYLVANIA
National Toy Train Museum

This sweeping vista of toy trains is displayed in grand style at the National Toy Train Museum in Strasburg, Pa. The modern museum is operated by the Train Collectors Association. Photos by Joseph Lapsley.

We'll see the locomotives beginning the Christmas season at the Strasburg (Pa.) Railroad's Ghost Train Ride, but the National Toy Trains Museum, home to one of the world's largest toy train collections, runs all year long.

What you'll see

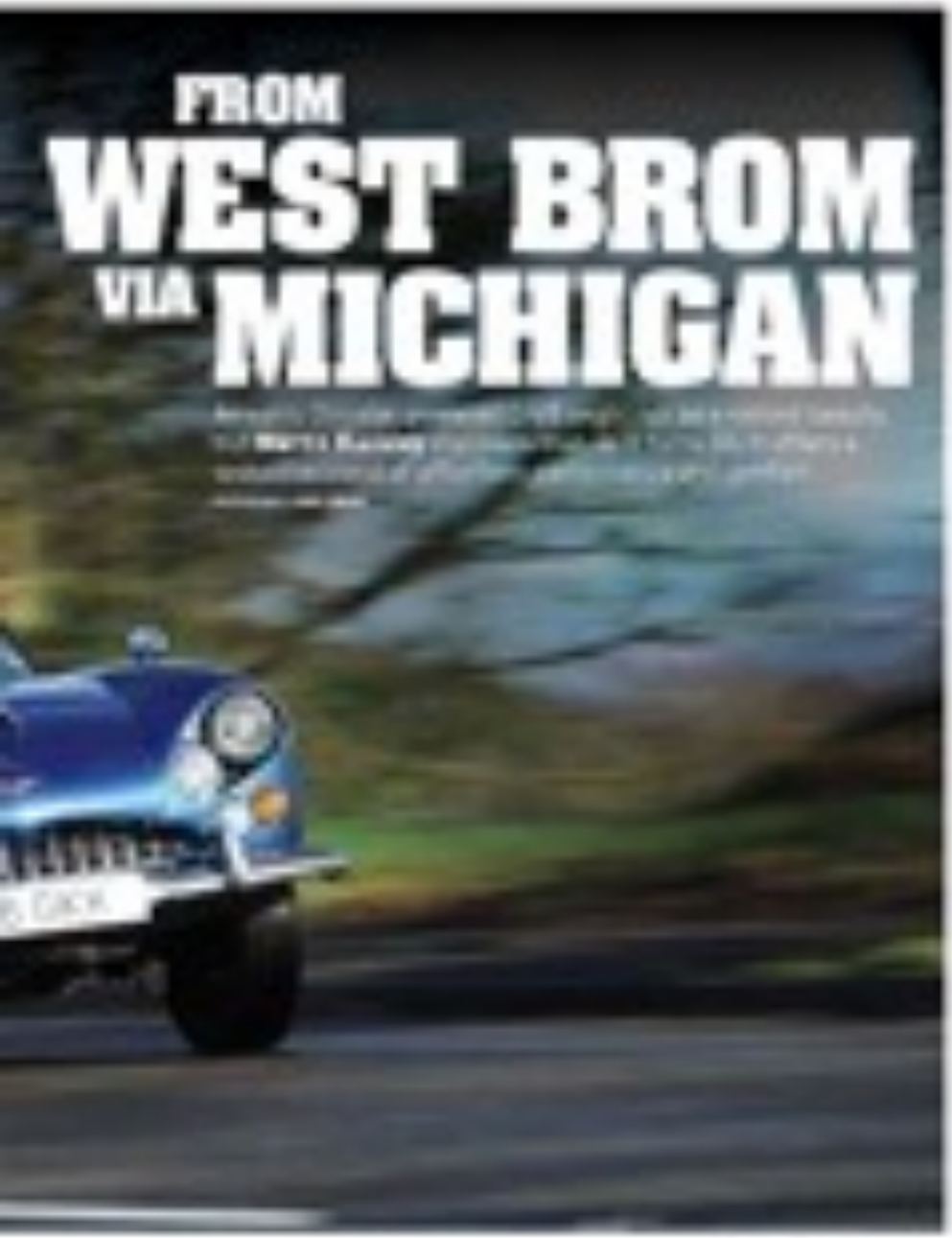
Exhibits include classic cast-iron trains from the mid-1800s through the present, with all major scientific eras represented. Visitors can also set sail in miniature ocean liners, ride a ribbon rail garage, and engineering behemoths on the Web cranes.

Even visitors too old to walk upright will delight at the 1,400-square-foot model layout, which features a Lilliputian version of Strasburg and the Railroad Museum of Pennsylvania.

Hours: 10am Saturdays and Sundays in April between May 1 and October 31, 9am Fridays, Saturdays, Sundays and Mondays 10am to 5pm.
Admission: Adults 16, seniors $12.50, children 12 under 4 free with adult. **Website:** nttmuseum.org

MORE ON THE WEB

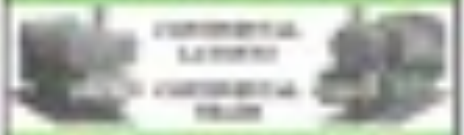
Nearly 40 permanent model layouts (gauge 0) and 5 public display layouts are online at our website. Go to classictoytrains.com, click on "Layouting" in the main navigation bar and select "Layout Visits" from the pull-down menu.



FROM WEST BROM VIA MICHIGAN

The Dance

WEST MERCIA MODEL RAILWAY EXHIBITION



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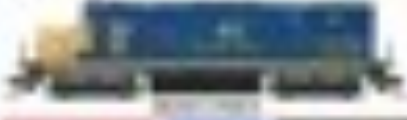

Modeling Atlantic Coast Line K-9, K-10 and K-17 gondolas

Detailing a trio of Accurail gondolas for the ACL | **John Golden**

These are the three Accurail 50-ton gondola models built using factory kits. While the author models the 1961 time period, the models are weathered to reasonably reflect work and is applicable to railroads any modern-era light coat of weathering.

The Accurail 50-ton scale 10-door AAR steel gondola is a favorite kit-bashed starting point for many modelers of the prototype Atlantic Coast Line K-9 gondola. In this article, we'll take a closer look at the Accurail kit and detail three prototypical ACL K-class gondolas: early-wing (AF-brand) decking, plate-reinforced and rib-reinforced upgrades.

The prototypes

Atlantic Coast Line acquired its first all-steel, all-load gondolas as 1921 deliveries. These built 500 cars, into the series 50000–50499. Class K-9, to the 1941 AAR Interchanged, Practice design, with an all-steel body and steel deck. The cars measured 41'-6" over-end height and 8'-6" exterior height, with two seven-panel sides and three-panel ends. The cars were equipped with AB brakes, six truck bolsters, wheels and Barber trucks. They were originally built with coupler, Ajax brake wheels, but were equipped with AAR trucks. They were originally painted black with outgoing number and AAR-required data only.

In 1941, Atlantic Coast Line rebuilt 200 of the 500 K-9s into one-piece, all-steel gondolas

Modeling Atlantic Coast Line K-9, K-10 and K-17 gondolas

The end-on details were left in place on the finished model of ACL K-9 No. 84214, pictured. The author usually applies the rolling stock with freestanding wire parts, but wanted to finish one car with the end-on grabs to demonstrate the high level of detail that can be obtained with a minimum effort. The KD's AB valve, reservoir, and cylinder were used on the prototype at the location pictured, but the plastic fittings and replacement drill bracket. The brake line is considerably thicker than the wire that is the valve's inlet pipe, but the difference is not noticeable. The angle cock at the end of the car is not, since it was constructed in the same direction

A). In addition, a new, cast iron end casting of the 1940 AAR gondola was released for years by Tyco and later Mantua; that can still be found at swap meets. This model is a good starting point and can be made into a very respectable model with a little work.

Accurail placed twelve car panels for delivering one of the most noticeably excessive ratio-exceptions ever produced by man. This ratio is practically a dead ringer for the prototype. Cars cost $2.20 (two all-steel gondolas and it's a 50 percent match for the K-9 and K-10 cars I decided to build (plus one car, the K-9 car, K-10 and one K-17 car for this project, and I used different construction techniques in the cars, as the K-9, I removed all the cast-on grabs and brake) parts and added additional wire brake parts with relative accuracy. For the K-17s and K-17 cars, as I completely stripped all cast-on details and grabs and re-finished the cars with very many details and new details. I also used different weights and coupler boxes on each model to demonstrate the adaptability of the Accurail model

The weathering process began with the application of Floquil Grimy Black to the car's underframe, trucks, and wheels. Next, a mixture of Floquil Grimy Black and Boxcar Red was applied to the sides, ends, and roof. Before each layer was allowed to dry, the weathering was applied with a stiff brush. The first layer was applied to the entire car, including the lettering. The second layer was applied to the sides, ends, and roof, but not to the lettering. The third layer was applied to the sides, ends, and roof, but not to the lettering. The fourth layer was applied to the sides, ends, and roof, but not to the lettering. The fifth layer was applied to the sides, ends, and roof, but not to the lettering. The sixth layer was applied to the sides, ends, and roof, but not to the lettering. The seventh layer was applied to the sides, ends, and roof, but not to the lettering. The eighth layer was applied to the sides, ends, and roof, but not to the lettering. 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This view (above) shows the kit model after the bodywork, chassis masters and initial weathering had been applied. When used in conjunction with the Speedline chassis masters, the hand-drawn chassis castings look very convincing. They provide a different solid and large White mass of detail, as empty end bulkheads. Here are shown diagonally to the right since that's how a right-handed person tends to look at a model's surface. When highlighting this model (below), the brush should be barely wet with paint. With light, even strokes, colors, contrast, and other visual cues stands out quite as the colors but not the surfaces, providing a "highlight."

These views show the finished N.A.L. car, with the floor installed. The interior detail and color can also be seen as very visible after the subtle weathering is done (below). In the end view at left, NOTE slight color variation between the lighter and darker boxes. The upper, or grab irons are cut and glued from the appearance of being separately applied parts. The rest of the details, with the exception of the uncoupling lever, are molded with the car.

and to highlight the differences between the popular brands.

NCL N-W No. 80278

I began this project by building the car per the instructions included in the kit. I removed all the parts from the sprues, cleaned them up, and assembled the car in short of success. I had some difficulty with the weathervane brakeman. It detached a little during assembly, so I cut off the brakeman and replaced it with thin diameter brass wire (brake) brakeman for (this). I also hung a short between the brake cylinder and the brakeshaft, and added uncoupling devices (commonly called cut levers). And cracked down the top, drilled and replaced the top corner grabs with thicker brass grabs.

I also added a simulated load that using 600 Grimaldi surface crystals that I painted tank weathered gray to resemble coal, and I replaced the grabs and Value Model Works. Replaced Trucks with code 88 wheelsets I left the kit-supplied weights loose in place and replaced the supplied hardware with parts from Kadee for kit installed.

After I added all the detail parts I washed and cleaned the car, then added dull coat to right and to dark flats from Accurate Models. Unfortunately Does decal not to explain the car down to see something one used before. I also added chalk work beside many a cars city of Accurate Models chalk work was, when was needed most day I marked the car thoroughly to show any decal adhesion off and prepare it for painting. Then I airbrushed the entire car with a wash of NCL Brown, and Tamiya Flat White and Tamiya Clear Black. This accents the decals and let the detail flow, also provided a weathered color finish. After applying the finish I added heat-shrink chalk marks using an artist's chalk pencil, then sealed them on the car with a light spray of Tamiya Polycoat.

Once the finish was set the I lightly weathered the car with a variety of pastels, concentrating to emphasize a car that had been in service for any years. First, I lightly sanded the car with 600-grit Aluminum Wet Sandpaper as a flat finish. I use a fine A Set, combined water's mostly to lighten up the dark black paint and provide a little contrast between the panels and the rest of the car. I wiped off most of the paint as well, a little bit of paint application as the build. I slightly smudged it in a few places so I never had any of the same color lightly onto Model Masters. Flat Black to mixed the colors together. I recommend one Weathering powders into the crack or bottom board the sides that the pieces overlap when placing panel appearance onto and panel because

Modeling Atlantic Coast Line K-9, K-10 and K-17 gondolas

These views show the coupler box pocket cut in the completed model (left) and the Intermountain coupler installed (right). A Kadee No. 79 coupler box was glued directly to the pocket. Both sprues were used to accurately locate the coupler box in the model. After the detailing, painting and weathering completed, the model of ACL No. 24000, a steel K-9 gondola (shown here in front of the steel K-9 car), is ready for service (below).

in a log or crumb as the car's new owner. I lightly stroked the sides up and down with Dragon's powders on my fan, each time with more force.

Next, I used water-based Scenic Express Earth Blend to bring out the details. I used a technique called "highlighting" more popular in scenic water color. Scenic Express formulates it dipped into the brush slightly into the paint and then wiped most of it off on some fabric, leaving the rest there. With light, even strokes the brush was then used to highlight the rivets and other raised surfaces with just the color that was left on the brush. I also used the highlighting to highlight hatch-board panels. Highlighting makes the details really stand out without diminishing the look of the model. I also mottled the highlighting, so I simply took the end of the brush and blotted it on a paper towel to lighten the color. I highlighted the entire car, including the interior, ladder, roofpiece and all the subassembly components.

With the car completed, I added Kadee No. 40 couplers, painted the wheel treads, then glued a bead coat on the car using clear, NYC Scenic Polymer, let's Dissolve and NYC Scenic Pro Wash mixed to the good measure. With the ACL completed, I moved on to the next project, ACL-40 [...] K-10.

ACL K-10 No. 24000

My K-10 model was completed using a different construction philosophy. I completely stripped off all parts as before, each effort marked. Model glue parts and reinforced the car with an eye to the future. I also used Micro Scale Micro Weld to glue the sides to their brackets.

I began by removing all the molded grabs and appliances and replacing them with photoetched parts. I removed the car's brake gear components and added all new parts and fastenings using Detail Associates No. 2004 AAR Brakewheel brass ones. I drilled grab irons per the prototype on the sides and ends, and I used Westerfield No. 1249 straight 90° grabs except for the bottom grab on the right side of each car where I used Westerfield No. 1131 90° drop grabs. I also installed Detail Associates No. 2010 AAR end ladder and No. 2009 AAR roof ladder. The AAR end ladder on each end had Tichy No. 3000 corner grabbers on the top of each corner. I replaced the car's rivets with Tichy No. 3001 rivet punch and installed appliances, along with Des Associates brake wheel and underframe and underframe. Des had supplied plastic stanchions with Tichy stanchion No. 2 x 4 AAR stanchions.

After detailing was complete, the model was cleaned up for painting by giving it a thorough scrubbing in my Scotch-Brite dishwashing brush. Scrubbing removes the factory paint and makes the plastic, resin and exposed engineering plastics to allow better paint adhesion. A cardboard is an inexpensive tool for an experienced modeler and can be used to combat models as well. You can buy an inexpensive one from Badger or make one like I did. Badger's airbrush is the first choice. With a thorough, sharp metal cleaning to also sufficient to remove all contaminants from the plastic to assure the model is cleaned up paint a coat. Testors Model Wash and let it cure for a week.

I decided to use Kadee No. 79 box pins as my B for which are not intended as "automotive scale metal coupler and make small gaps but fairly reliable [illegible] on models. I prefer like the No. 79's, as they provide a reasonable alternative to the fastened scale coupler/draft gear box and allow for any of the cars Kadee "scale" metal coupler. Unfortunately I decided to make this coupler modification after the model was completely built, which necessitated removing the coupler pad so that the car and mounted at the correct K wasn't difficult but required some cutting and hooking that normally I prefer to do before assembling the car. After the coupler pad was removed and

[illegible] I added a small piece of [illegible] to create a mounting post and glued the Kadee No. 14 coupler box to it.

Unfortunately, I've only had trouble with the Kadees shown with "The Arrival" but it's annoying also when an ingrained part I had to use but small signs when it was built I occasionally substituted between a Micro-Trains and to achieve a reasonably results. If I were to do this project again, I would use the excellent detail kit made by Jay Bee[illegible] Glue, specifically for this use, [illegible] details may be found on the Internet or [illegible] [illegible] [illegible] [illegible]. I used the Kadees not for all when following but did use supply was found [illegible] couplers, [illegible] trucks also produces a set of decals for the Georgia Railroad markers of this car.

As with the [illegible] I mentioned this in favor of the N-18 with a variety of Bloomfield's [illegible] and used Walthers Bare Chassis to actually model in the interior of the car. I highlighted the car with Bowman Paints Brown and hand-rubbed with black and Raw Sienna to reveal the correct tonalities.

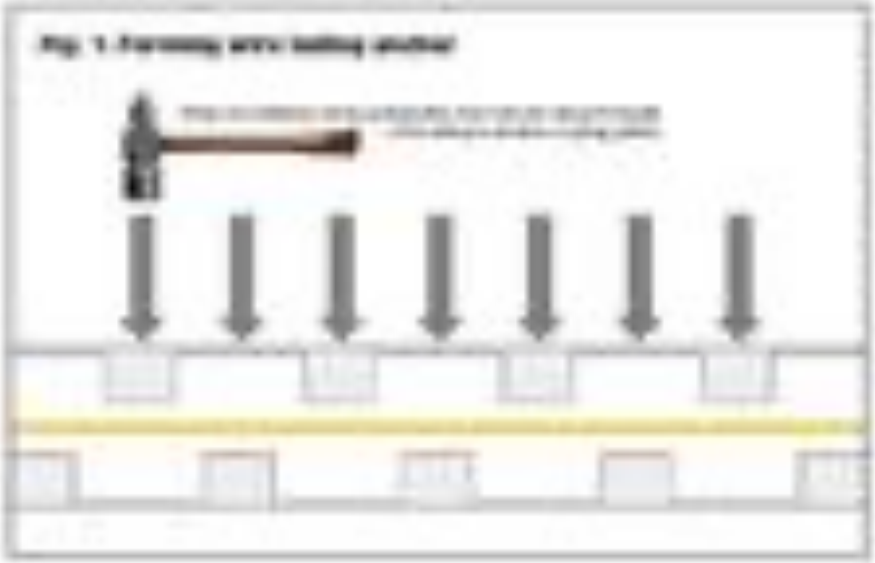
Add N-17? No, please!

When modeling the N-4 and N-15 models, I decided to capture the color of the Harvard model by converting it to an N-17. The conversion involves replacing the roofs with tapered Omaha-type ends and applying a trim tubing section on the top chord of the car's sides.

Before I began the project, I researched several options for modeling the Improved Standard roofs. The Improved Standard roofs on the prototype car measurement for that major comparisons with three basic comparisons: two between each major comparisons. The minor comparisons appear as a two-dimensional between the two car comparisons. Furthermore, three "decks" were assigned on the obvious ends of the years between each of the three major comparisons.

To calculate model the ends I used photocopied parts made by Detroit Accessories, part number #[illegible]. Unfortunately, [illegible] [illegible] I could not [illegible] [illegible] [illegible]

Modeling Atlantic Coast Line K-9, K-10 and K-17 gondolas



Placing a .012" diameter wire between two diagonal pieces of beveled balsa, sliding and then tightening the sliding sections produces the locking sections. Trim after sanding. Note the sliding ends be sized at right to be important to keep enough pressure on the wire to keep it anchored and straight through this exercise. Here is the .012" diameter wire after tightening. Material: 1/8 inch sturdy for straightened for application on the top sheet.

This photograph shows the finished Bowser of all three gondolas. On the left is the stock 9-ft car as built. In the 8-10 car used at right is the 9-ft 8-17 car. Notice the difference in the coupler pockets on the models. The 9-ft has the bit-serrated shaft gear box with a Radial No. 70 coupler. the 9-10 has the Kadee No. 58 coupler and draft gear box and the 9-17 has the Proto:2000 knuckle coupler and coupler box.

Dickson, and Bill Aubert. The permit on a rainy break on the car. When the paint was dry, I sprayed the trucks, underside and ends of the car lightly with Testors Dullcote, and then sprayed the entire car with Testors Glosscote. Finally, I brushed the wheels with a thinned mix, removing the deposits on the inside using a thinned No. 5/0 brush or other 4/000 brush. Then I reinstalled the couplers, trued the wheels, and restored the car ready for service.

Conclusion

The finished car is a wonderful replica of what might run of the mill car for the period, with information about cars in the Navy and pictures about their projects, please don't hesitate to contact me at timbenedict@yahoo.com.

Thanks

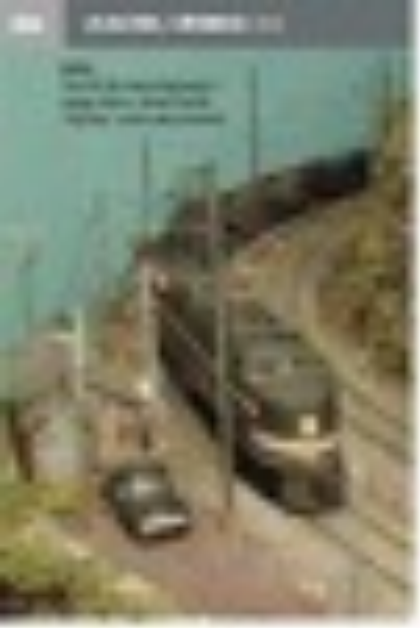
My sincere thanks Terence Bennett (we have it now of Bennett) for providing copies of the models, and Ed Wintermute, Bob Hundley, Lewis Oxnevad, Bob Lilljestrand and Russell Dobbin for providing prototype photos and other information materials.

This close-up of the right side of the B end of the car (above left) shows the Yellow handle, vented gussets, and the Weldefield decals. Also note the ladding pocket mounted on the top chord. The ends of the ladding anchor have been trimmed so they don't get caught on other classes or other things in the case of the B end of the car (above right) shows the Front Commonwealth coupler, Delta vented gussets, Firebrick finish on body and brakes, and other details. The 1000" stakebody load was painted-on. Next to the completed 9-17 model stakebody which was built using the Accurail kit from 1000 gondola kit as a starting point.

Peter North completes the description of his new layout, commenced in the January [illegible] edition. The layout will be appearing at the Nottingham show on Saturday 17th and Sunday 18th March.

Squareheads, Streamliners, and Bricks

The Virginian Railway modelled in N



A lineside excavator for O gauge

Continuing our short season of railway-themed projects, **Dominic Gwynn-Jones** describes how he turned a toy digger into a very useful scratch-built model for his own O gauge railway

Engineers in many scales

Upgrading an old Corgi toy into a scale model

Over the years, I've built a number of models for my railway, but I've always had a soft spot for construction equipment. Perhaps it's because I've always been fascinated by machines that can move themselves around, or maybe it's because I've had a lot of fun playing with toy diggers and dumpers as a child. Whatever the reason, I've always wanted to build a model of a digger, but I've never had the time to do so.

Then, during the summer of 2020, I found myself with a little more time on my hands than usual, and I decided that I would finally build a digger model. I had a vague idea that I would like to build a model of a digger that was similar to the ones I had played with as a child, but I didn't have any specific plans in mind. I simply wanted to build a model that looked like a digger and that could be used on my railway.

I started by looking at photographs of various diggers and excavators, and I soon realised that I would need to build a model of a digger that was relatively simple in design, as I didn't have the time or the skills to build a model of a digger that was very complex. I also decided that I would build a model of a digger that was relatively small, as I didn't have the space on my railway for a large model.

I then started to look at the various parts that I would need to build the model. I knew that I would need to build the body of the digger, the arm, the bucket, the wheels, and the tracks. I also knew that I would need to build the engine, the cab, and the various other parts that make up a digger.

I started by building the body of the digger. I used a piece of wood for the base, and I then added the various other parts that make up the body of the digger. I used a piece of plastic for the cab, and I added the various other parts that make up the cab. I also added the various other parts that make up the body of the digger.

I then started to build the arm of the digger. I used a piece of wood for the arm, and I added the various other parts that make up the arm of the digger. I also added the various other parts that make up the bucket of the digger.

I then started to build the wheels of the digger. I used a piece of wood for the wheels, and I added the various other parts that make up the wheels of the digger. I also added the various other parts that make up the tracks of the digger.

I then started to build the engine of the digger. I used a piece of wood for the engine, and I added the various other parts that make up the engine of the digger. I also added the various other parts that make up the cab of the digger.

I then started to build the various other parts that make up the digger. I used a piece of wood for the various other parts, and I added the various other parts that make up the various other parts of the digger. I also added the various other parts that make up the various other parts

[illegible] [illegible] [illegible] [

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Making characters

PROJECT BEGINNER

Modeling figures with Sculpey oven-hardening clay: Part 2

By Eric Schultz | Hamilton, Kent | Photos by the author

Passengers at Garden Railway Promotion Society's Cranbrook meeting in Kent, England, watch with the train crew going to the departure of the morning passenger train. The author's hand-made figures help to give the railway its unique identity.

6 Add bulges only to the muscles and work it into a body shape

7 Having a drawing of the figure nearby for reference is helpful while adding clay

8 Use a wooden stick modified to a point to shape the details by pressing, rolling, and smoothing the clay

9 Leave creases or indents where folds and wrinkles in the clothing

10 Cloning tool or cast tool and hair can be added using separate pieces of clay

11 The add-on pieces are blended into the surrounding clay

In my last two years of this case I discovered the basic proportions of the human torso, how to shape it...and how to construct a simple wire armature, even down to solid iron clay. This time we'll finish sculpting and painting our figure.

Adding clay

When I am happy with the armature, I start working first clay to it. I often leave an outline like clay there by starting with a few armatures, just tearing it with my hands. I then break off little pieces of clay and overlay them over the armature (photo 4).

I start with the body and break down with legs and arms. I add more material to a muscle as I go (photo 5). I look at my drawing and try to match the size and proportions as well as I can (photo 6). I work this individual bumps of clay into one continuous body by pressing and squeezing the pieces together.

Once the body is roughly shaped, it is time to start creating details. I use a piece of scrap wood that I have shaped into a point like pencil on one end and a pencil like point on the other. I use these points to press, cut or spread the sculpture into the shape I want.

I usually start with the face. I press in two dots like dimples on either side of the middle of the face for the eye sockets (photo 7). I continue to a little clay to make the nose, pushing styles the nose to shape it and start forming the mouth. The mouth can just be suggested with a little slit, or with a hand on the brick. A little more pinching and smoothing shapes the cheeks and chin (photo 7). I then spend a lot of time on this point to get particularly the nose shape in shape shaping.

Clothing

Clothing can be sculpted by hand and slight modification with the tool. If you want an the clothes you are sculpting look your still probably as close the sculptural is not long like a second face a pattern of fold and wrinkles found in the pattern you want some characters to be found and look at what your clothes do. There is usually a pattern a fold at each point. There will be wrinkles above the chest and at the cuffs of the shirt.

I just play with my clay and the work to shape the clothing. If I am not satisfied, I can keep on it can smooth it all out and start over. I can add more clay or carve it away with a hobby knife.

The boots how I made bodys are not look the body shaded look. Rough and rugged folds from jeans and denim cloth and wrinkles. Now do work, and subtract clay clothes like thumb. Then knives and cross work over the inside using little depths of clay (photo 9), not way. Now work on the hands of body and blended into the pre-existing clay (photo 9).

11 Now you can pose your figure down to the various [illegible]

12 When the figure is complete, it is baked in an ordinary oven on to a fairly low temperature [illegible] **as specified on the clay's package by the amount of time noted** [illegible]. **Once the figure was fired on to cool, a long way further I have been looking pleasant in this small oven. Figures should not rest on the, fragile parts.**

As I got closer to what I wanted, I'd go back and refine the face and other details. I also was aware that double-checking at this beginning two-level I was almost there, so I have read about other people who make cute, unique pieces of the figure, their traits and favorite items. The process, described as three within other sections are being worked on. This is then a continual, with little step to study more of the figure. Sometimes they could and take several times. This sculpture is one lessened by repeated trips to the oven, as long as it does not get overheated.

From here on more, I may trade or lend to my progress. I find that this detail is how where working hands but proper pre-painters and removal points are more important when viewed from a distance of more than a few feet. Professionals to detail most be very good in a very sure. A child's work is sure to be, and so valuable to the painter as a first model (**photos 10**).

If you are not satisfied with your figure, you should set it aside for a few, two more times to [illegible] it over, or find a smooth. Don't worry if your effort is not perfect— just start too.

Time to cook

When you are ready, or even more, to [illegible] or 130°C. Set the oven racks so that you can place your figure into the oven on an wooden base surface or baking tray over the top of any heating elements. I use an old, worn out cookie sheet or a piece of aluminum foil to set my figures on when baking. Note (**photo 11**): This makes it easier to put them in and remove them from the oven, and it also catches any little bits that may fall off. The directions on the clay's box will tell you the temperature and length of time to bake. I usually bake mine for 15 minutes. Then I remove them from the oven, put them down to cool before working on them further.

You can follow the stages slightly after they are baked. I recommend the curving, flame-with a sharp knife tools. You can also use a clean, wet cloth. Be careful though—they are [illegible]. You can also make additional with [illegible] if you want to, and bake your figure again. If you do decide something just glue it back together or make one piece.

Painting your figure

Acrylic paints work best for this, but you can [illegible] paints, as these will also age the clay.

I figure I'll let it cool down then I will start with a photo. A good camera (**photo 12**). I can't be getting any of the dust and hands removed by the water, then dry and paint, working on one side to that I only have one edge to paint up to (**photo 13**).

I use basic colors that I love since there is that are not too bright to contrast to white and black. Work clothing at least as many, in a yellow [illegible] color, especially as it ages. An important, especially for [illegible] like this, is a dirty, yet a blue gray. This also was my favorite to still see the [illegible] some [illegible] a [illegible] brush on every. Black is [illegible] as [illegible].

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and dunno whether he would get dirty with oil and suck it and then he'd be sick. Then I'd have to do it all over again. I'd probably end up with a headache and have to go to bed. I'd have to take a painkiller and then I'd be sick.

AN URBAN RAILFAN SAFE HAVEN

Kansas City Union Station

By [redacted] Photography by [redacted]

SOMEWHERE in any given photographic area constructed by police artists overflowing in yellow areas, [redacted] have themselves [redacted] are to serve a hope, love [redacted] area not overflowing [redacted] who area around Kansas (KCI) Union Railroad (KCUR). Right next to this fantastic and impressive street structure, the triple track Kansas City Terminal trains an average of 100 trains per day pulled by engines from four to six different railroad companies, in addition to many art forms [redacted] operations. From the pedestrian walkway, the visitor gets a big garage and two adjacent city street complexes, photographers can take advantage of this transportation mecca safely and conveniently. We asked [redacted] a few questions that [redacted] this unit and assists into facilities provide the those who visit for us from a day or longer. Together these considerations make the KCUR area an urban railfan safe haven.

KCUR Station and Railroad

Although the station has seen many ups and downs, only recently did a series of changes save it from being used [redacted] to be restored badly in 1968 as engineers asked the Kansas City Terminal Railway (KCT), created to all the railroads serving Kansas City, decided to replace the original Union Depot, opened in 1914, with a new, larger passenger facility on higher, less flood-prone ground. In 1914 trains began using the Southern-most station. The third largest passenger depot in the United States, Kansas City Union Station handled 60 passenger trains a day in 1917. After the "Union Years" (1914-1941), passenger service and the railroad started to decline.

By 1981 traffic was 80% [redacted] by Amtrak [redacted] remember any train [redacted] at the crumbling facility, so when Amtrak [redacted] to move its boarding area, it [redacted] [redacted] "Amtrak" inside the Grand Hall. With the help of [redacted] individuals, organizations and service local politicians, [redacted] a mission of private and public money, [redacted]

[redacted] federal dollars and a 5-cent-per-can [redacted] $800 million was generated for the restoration projects [redacted] from 1991 until 1996. Instead of [redacted] and [redacted] habitats," MCCA [redacted] two [redacted] restaurants, a large [redacted] Sandoz, and many small shops in a beautifully restored building, both inside and out.

The Freight House Bridge

After [redacted] to parking MCCA a wonderful [redacted] photo [redacted] of the Freight House Bridge. Officials opened [redacted] dedication ceremony in October 1988, [redacted] over one hour, [redacted] Kansas City Southern's president, Michael Haverty, [redacted] his company's parent railroad, [redacted] Missouri-Kansas-Texas, which was [redacted] to the county. Missouri Boat Utilities property owners, [redacted] and repaired the structure, [redacted] a common pedestrian walkway across the levee. [redacted] Kansas Riverwalk [redacted] the south end [redacted] two restaurants on the west. [redacted] Freight House Bridge is a wonderful addition [redacted] the [redacted] MCCA [redacted]. Rights representing every [redacted] that [redacted] or [redacted] worked [redacted] Kansas City [redacted] on the [redacted] of the bridge [redacted].

For a number of reasons, the Freight House Bridge is an ideal location to watch and photograph trains. The two vertical [redacted] points on both [redacted] are spaced far enough apart so that one can get [redacted] shots [redacted] with plenty of [redacted] [redacted] through them. The [redacted] and northeast [redacted] provide [redacted] [redacted] [redacted] from the [redacted] [redacted] [redacted]

for the first few hours with a modest haze in the bright skies.

Additional Photography

In addition to the parking garage and Kemper Arena Bridge, two lower-level passes on return rolls at $2,500 provide other photographic opportunities. Just to the east side of the station is Main Street, a busy thoroughfare which has pedestrian walkways on its north and east sides. Before the Kemper Arena Bridge was constructed, I used the sidewalk on the west side to photograph eastbound trains in the morning. Although shadows from a tall office building on the southwest side of the street are inevitable with photos facing the rising sun, there are times of the year (from the east sidewalk of Main Street, one can also take advantage of the shadows on the other side, although the shot is extremely tight because of nearby buildings and a curve to the tracks.

A more striking perspective comes from shooting east from the West Pedestrian overpass which is a short distance west of Union Station. A wide lens is ideal to shoot this in the latitude of east traffic. West Pedestrian overpass does have a walkway suspended from the street by a concrete barrier. My favorite time to shoot this location is early morning in high summer when the sun is far enough north so that it is illuminating the north side of southbound trains. Especially striking is the view of Union Station

JUMPIN' A BUS "Lucy Belle" was back in Kansas City's Union Station on a weekend in April 2010 with the Shamrock Special. The special train is usually pulled by one of the pair of EMD F7 roadway units that were in Amtrak Phase I paint. Here, on the return trip to Kansas City, Mo., the Shamrock Special is running at Kansas City Union Station on the afternoon of October 14, 2010, after spending a few hours in Kansas City, Kan., where it was turned by using a wye. After crossing the 4th Street bridge, it will head west and then around the loop to the station. The train is from Kemper Arena Bridge.

Lights. Heavy-metered passenger cars are part of the "A-B-A Rail Experience" package at Union Station. The cars' primary job is to provide the necessary lighting for their cafe, as no locomotive headlamps are used on point-and-return charters.

Parting Thoughts

Stairways to islands

Modelling an island platform subway in 00

Jordan and Syria

Hedjaz

Joachim Bublawski reminisces over more than eleven years on location on the Hedjaz Railway. This episode in Ruins Day second leg of the trip, in Syria, where it rendezvous experiences and challenges of its kind.

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Mini Gondola Coal	15113
Mini Gondola HLW Paper	15114
Mini Gondola HLW Steel	15115
Gondola - Missing	15116
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Emmanuel Goerelier [illegible]

[illegible] Photographs by the author.

Old shop fronts

A classic feature of the French urban landscape

Step 1

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum.

Step 2

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Ut enim ad minima veniam, quis nostrum exercitationem ullam corporis suscipit laboriosam, nisi ut aliquid ex ea commodi consequatur? Quis autem vel eum iure reprehenderit qui in ea voluptate velit esse quam nihil molestiae consequatur, vel illum qui dolorem eum fugiat quo voluptas nulla pariatur?

Step 3

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Step 4

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Step 9

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[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

Denshaw Quarry

A 'build-it-and-fit-into-your-design-and-it-will-look-like-this' idea!

Despite being a scratch-built and 7¼-gauge model for over 25 years, **RICHARD KIMBLEY** wanted this 7¼-gauge project to work in standard, semi-exhibition style, though compact and fully self-contained. [illegible]

The station [illegible] Denshaw Quarry [illegible] [illegible] [illegible]

[illegible]

[illegible]

[illegible]

Steve Millen describes his latest experiment – the entire garage loft for Arnold Clark's railway built with hobby equipment. Main Plan Publishing has

El Cremallera

A Spanish rack railway modelled in 16mm

Introduction

[illegible]

The prototype

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

Brakeman and caboose symbolize walk-around of the captured long-gone days of the 1960's and 1970's way-and-on a double-deck wheel. Looking at this model of Rock Island No. 1014 (above), Built from a wooden caboose all parts, including the short hood, cab and frame of a Atlas N scale Northern long hood (2 on Atlas HP). this model is based on an ex-

powering shows by 0060 in 1961 1960 replaced the original drive assembly with its 1970 engine and a few refinishing added at 2000 long hood to house the new arrow motor (page 41, bottom). The locomotive has kept the distinctive rounded short hood of the first machine as well as the trucks, frame and underbody details (page 41, top).

Kitbashing a Rock Island hybrid in N scale

Trevor rebuilt classic seven-part Atlas RS-2 and part EMD Geep | **Alvin Ho**

The Rock Island had Atlas RS-2's (Trix 2000 into much) by late May-September to October 1960, and all were sent to EMD for repowering. A short time later diesel service with the EMD 567 driving Mazda of 2000 (EMD Order #702). Although the 567C was capable of producing 1,750 hp this application, likely because of the on-use of the 16 Road 710 internal servers. They also received new long hood for work configuration but continued using a 567 or 1200 long hood depending on what the Rock Island required. All the work included some sort of quick exterior and longer weather hoses on round-nose low short hood.

The 4701 was the very last of the five to have both rebuilt engines and this wasn't installed and have no original round headlight on the short hood repowered with an early 4-by-loose light. The stocked "Rock Island" reporting style was also specific to only two of the five and both had differences before painting from the others.

This project began when I worked in downtown Alton, IL and a Rock RS-2 (day on my workbench). I had many memories of the locomotive in service and that was the part of the work I had to have two. While it

2017 Diesel Kitbashing Award

A detailed model of a Rock Island RS-2 with a repowered 567 engine and a long hood. The model is based on an Atlas HP kit and features a custom-built cab and hood. The model is painted in the Rock Island's classic red and black scheme and is displayed on a wooden base.

came to picking a specific scheme to this select of 5-6 engines I took the oddball of the lot as a challenge. No one ever found spark arrestors on most of the work outdoors could take heed no every when Rock Island road switchers, railroad engineers and firemen's engineers and a miracle headlight on two short hood.

The model began with a Rock RS-2 conversion, RS-2 short hood and cab, and a HP4 long hood from Atlas. It's a heavy thing and grinding work a will the and a Dremel tender tool both on the inside of the HP4 long hood and on the RS-2 underframe from engraved for a flat and long fit. I removed the upper cab windows originally on the long hood side of the cab, and then of the original control installed from also filled in with styrene and re-cut to match the appropriate square and rectangle cutouts shapes.

The original railroad styled were altered down to keep the bell (short) on the Rock spark arrestors on top. I shaved off all the position to the hoop and grab irons and used a Rix RS

ROCK

ROCK
ISLAND

Kitbashing a Rock Island hybrid in N scale

The big change to the model's cares with the addition of an EMD long hood front on Atlas GP9. The very original exhaust stacks on the unit have been replaced by spare products

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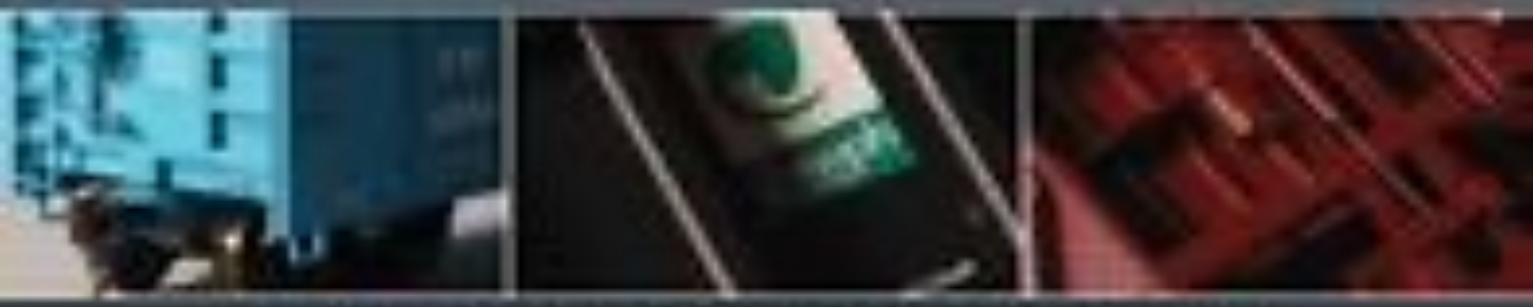

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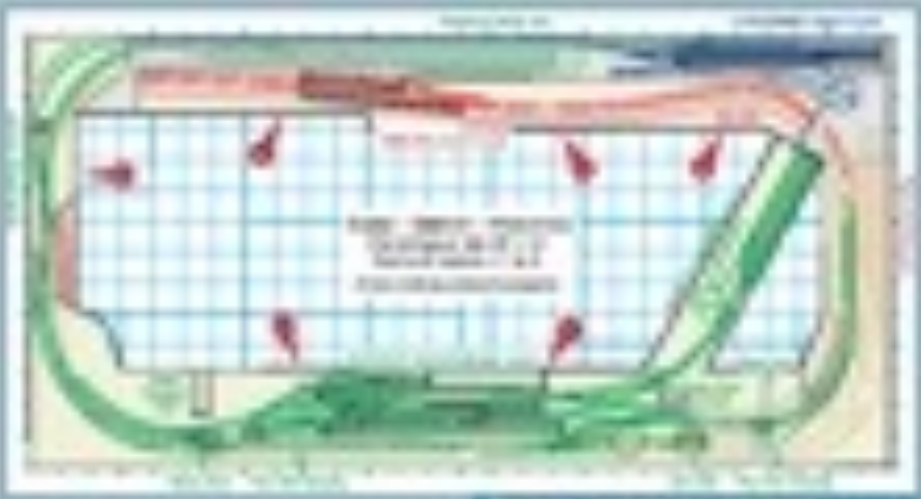
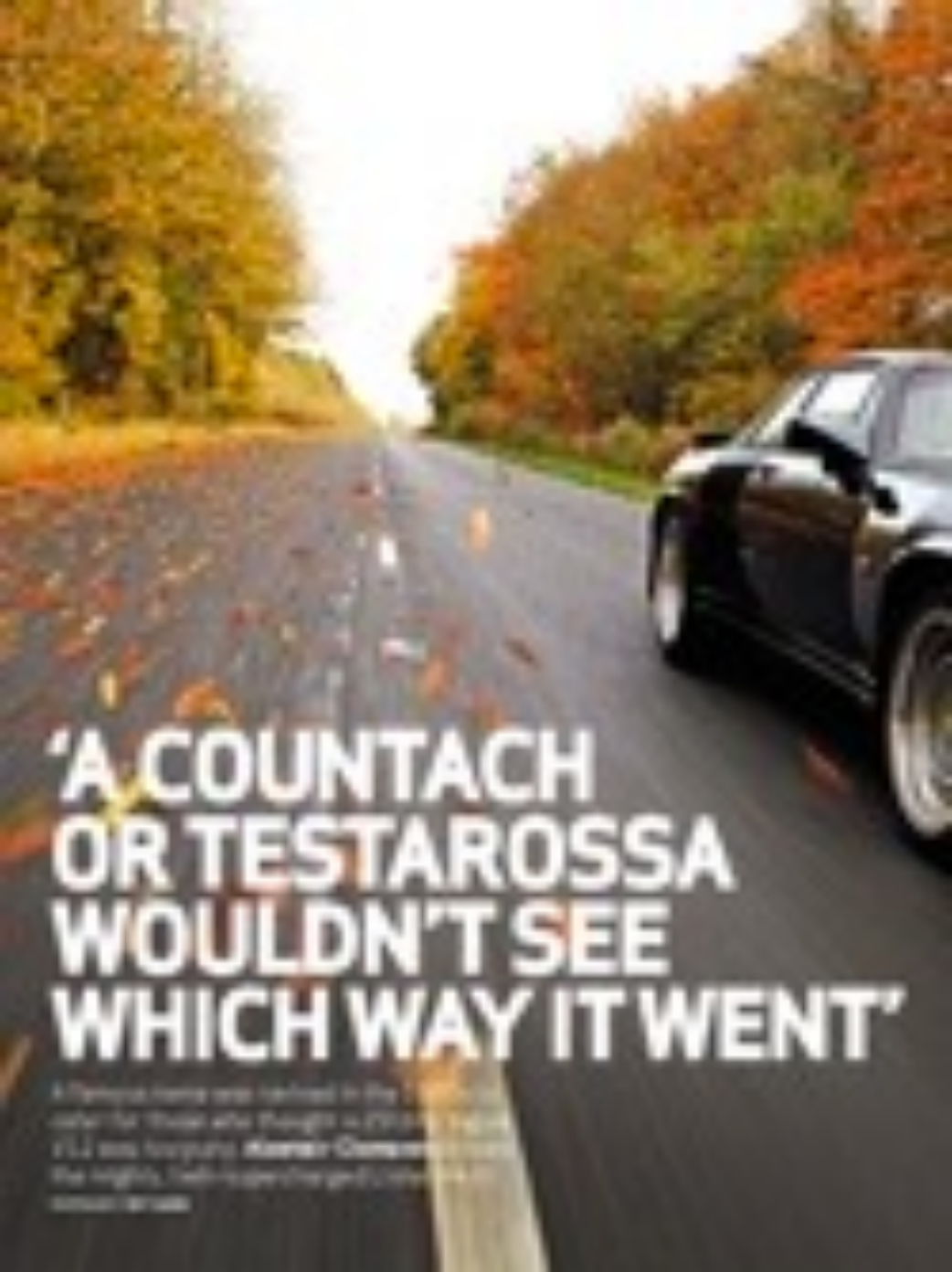


Herbert Leinbrock introduces the portable part of the extensive H0m layout of the EGMA Arbeitsgruppe "Harzbahn- und Brockenbahn" Modellgemeinschaft

The summit of the Brocken

A small part of a large club project



‘A COUNTACH OR TESTAROSSA WOULDN’T SEE WHICH WAY IT WENT’

G441 RRH

WHAT'S ARRIVING NOW FROM ATLAS?

Founding father

INSIDE JOBS

While Coombs and Uren offered upgraded Jaguars, the company itself wasn't afraid to tinker with its own products. **Jaguar Sport** engineers Mark Whelan and Richard Lloyd discuss their shortlived but fondly remembered XJR-15 supercar, and the XJ220 successor that never was

Jaguar XJ220

Lightweight E-type

Jaguar XJR-15

Jaguar XJ6/8

Jaguar XJ6/8

Jaguar XJR

Jaguar MMXIII

WHO WAS THE STEEL DRIVIN' MAN?

Did John Henry fight the steam drill at Great Bend Tunnel or was it a tall tale?

by Bob Withers

According to legend, John Henry was a man/idea, a giant of African-American or "steel drivin' men" who helped build railroad ties and tunnels throughout the South. Storytellers say he used a heavy sledge-some hammer to drive a steel drill into rock and poured a stabilized explosive mixture containing nitroglycerin into the hole to blast his way through.

But a college professor's recent book challenges much of what those storytellers have related as gospel truth about the steel-driver and his awesome tall tales.

A company incorporated in 1843 developed the complicated Rockdale steam drill that enjoyed success in Connecticut and New York when Henry, at age 35, supposedly challenged it to a drilling race and died shortly after he won.

Perched on the tallest overlooking Big Bend Tunnel in West Virginia, the statue of John Henry towers over all a tribute to the man and his myth

MYTHS AND

LEGENDS

Was this the tool that led to John Henry's death? The 60-lb sledge pictured at left was supposedly the instrument that John Henry used as against during the construction of the Chesapeake & Ohio main line through West Virginia.

WHEN JOHN HENRY WAS A LITTLE BOY
HE HAD SITTING ON HIS KNEE A BABY
SAYS, "THE BIG BEND TUNNEL
ON THE C&O ROAD
IS GOING TO BE THE DEATH OF ME
LORD, LORD,
IS GOING TO BE THE DEATH OF ME."

Proceeding on the basis of [illegible] was a diminutive steel-driver to [illegible] Va., on the Black Bear mountain of Montgomery. He possessed the strength of ten men and a magnetic personality. He played the fiddle, sang as a deep bass voice, played cards, and took on occasional drinks of whiskey. He left a long trail of broken hearted mistress from West Virginia to Alabama and West Indiana.

John Henry was a foreman, a steamdrill, and a laborer. The [illegible] a "hand-driving target" that is driven a steel rod) with a cut-shaped bit into rocks, making a hole about an inch wide then return to powered [illegible]. A companion [illegible] the "turner" or "shaker" [illegible] with [illegible] to also turn them to loosen the rock chips and dust, and turned it every few hundred taps or [illegible]. Sometimes two drivers worked together, alternating their blows on the drill.

Frederick Hobbins, in his 1931 book "Railroad Heroes," quotes F.E. Barbee as follows: [illegible] "I could drive more holes [illegible] than any [illegible] and I was in the habit [illegible] the road."

"The legends that have proliferated about John Henry have made him larger than life. [illegible] that he kept six men busy [illegible] his drills back and forth in the mountain [illegible] Most [illegible] due to [illegible] a 14-pound hammer simultaneously [illegible]

JOHN HENRY WENT DOWN THE RAILROAD
WITH A 12-POUND HAMMER BY HIS SIDE
HE WALKED DOWN THE TRACK, BUT HE
DIDN'T COME BACK
CAUSE HE LAID DOWN HIS HAMMER
AND HE DIED

[illegible] was a handsome man but classed John Henry as a [illegible] one we [illegible] that he had a part in constructing [illegible] mounds. Depending on [illegible] was ten [illegible] the captain [illegible] responsible for station and [illegible] and he died

Kinetic view of the entrance to a tunnel on the Chesapeake & Ohio main line through Virginia and West Virginia. The is the region where the John Henry legend was born. [illegible]

JOHN HENRY HAD A LITTLE BABY

[illegible]

AND THE LAST MORN I HEARD THE POOR BOY SAY

[illegible]

[illegible] was [illegible] to Talbot Henry's death. One source said it to the headstone but his wife going widow could not read the cancer, and Henry were [illegible] observed. [illegible] of a young [illegible] at his knee none in bed right [illegible] and died giving the eight from an [illegible]. [illegible] a years was he survived the two, [illegible] on the [illegible] and was completed by 1872, then died when little personal [illegible] legs his feet into a [illegible] and [illegible] a bright [illegible] [illegible] of many [illegible] [illegible].

Henry supposedly [illegible] work on the Chesapeake & Ohio's [illegible] at [illegible] of Covington [illegible] and there met on the 1,295 foot long [illegible] Mountain. Found near [illegible], [illegible] Henry [illegible], and [illegible]. In the story, by [illegible] is more [illegible] and [illegible] the spot with two drill [illegible] [illegible] the work. Other people [illegible] that [illegible] could [illegible] the drill. Henry [illegible] [illegible] against and [illegible] a spell on the [illegible] powers. The C&O [illegible] the [illegible] Mountain, finished on May 1, 1873, when the [illegible] drill had [illegible] to use for almost [illegible] and [illegible] and [illegible] [illegible] as to [illegible] a [illegible].

The original mural shows the race with the drill both drivers, according to legend, in shirt and tie; no tracks today. And later at night, it takes on a ghostly appearance. Frank Stanley

**WHITE MAN SAYS,
'THAT'S A MIGHTY MAN.
HE'LL WEAR[illegible]
BUCK IS FOUND'**

**'HE LL WEARIN WHEN THE HAMMER
BUCK IS FOUND'**

Writers have used as legends the John Henry story. Book title from 1969 book "John Henry: A Bibliography" but even the basic core sequence, "steel" and "driver," be overlooked, even the rare uncle creation names for male steel in the 19th century. "Henry" often means ambition, striking a blow in the affirmative beside that owned here. Author Guy B. Johnson, in his 1929 work, "John Henry: Tracking Down a Negro Legend," found C. John Henry in an 1870 anthology, which led William to our area here probably quite soon by that name. Williams also does need that keep alive, but John Henry in a given event, after two main interests, and who practice their keyboard instrument that they gained their livelihood. In John Henry's ordinary name, Williams contended, made it very public in cross the Sesame Agency.

But it [illegible] the ice of locals discovered. Nelson, a 3-figure gentleman of balance at the [illegible] in Williams and Henry at Williamsburg Va., he adapts the [illegible] images of John Henry on his 1944 book, "Steel Driver Man, John Henry: The Untold Story of an American Legend."

Nelson claims to have discovered the following:

• John William Henry was a 5-foot-11-inch African-American who was born in Eastern City N.C.

• Henry was 27 years old when registered in the Virginia Pre-Emancipation Register of Free Negroes on Nov. 10, 1866, as a contractor of [illegible] and laborer. The charge may have been connected to the event of his death.

• On Dec. 1, 1866, officers hooked John William Henry and 10 other prisoners, all with Afro-Asiatic heads and noses, in their [illegible] railroad cars after consigning them to Indy [illegible] [illegible].

• Henry worked at the [illegible] near Lewis Tunnel [illegible] line on the eastern slope of the Alleghenies in Virginia instead of the 1,706-foot Great Bend Tunnel [illegible] on the Alleghenies western slope in West Virginia.

• In May 1871, a [illegible] 35 [illegible] from New York, New Jersey and Pennsylvania to ride on my prizes, and watch tunneling drills along the line. The most angled blasts at Lewis Tunnel where the passengers watched a large group of men, mostly [illegible] from back at work.

• [illegible] Huntington was known to be interested in getting men priced against hand power, and to [illegible], as we know [illegible] way before and have [illegible].

• If the legend that John Henry drove 14 [illegible] a seven-[illegible] hole on two days would have been working on a shaft [illegible] from the top of Lewis Mountain rather than other rock or the tunnel.

• Henry's death may not have resulted from [illegible] cancer, or a collapse with a [illegible] drill, but rather from the dangers of drilling in tunnels. The [illegible] produces deadly levels of [illegible] particles that destroy lungs when inhaled. At Lewis, [illegible] drills cleared rooms on the rocks, lighting [illegible] dust in every direction. And the [illegible] forced black children to work right next

**Spending a day early
coal's 19th-century was difficult and
dangerous work that involved skills, hammers, and explosive
charges.**

on Rome. If the truth had been known about what happened at Lynch Station, Virginia, contended the Austin of Texas Daily Bill analysis highlighting a water downpour ordered the Chicago Cathedral "to collect more and let people stay caught more hours arrested."

— The owner of Dollar William Henry disappears from prisons records about 1877 with no successor or particular premise, an almost natural conclusion that he died on the job and his body was among the unnamed bar skeletonized rows that were stepped back to the penitentiary ice house.

— On whose birth anniversary a Lively Chained did not work well and machines overstrained black men at the cost of mortality. 2011 Forest that new coal September 1877 records 349 mine, recently ran mule completed the hour "mostly built at those shot work this was-ment of facts associated wells long improvements. He addressed into dreams plan who was returned as the Virginia Penitentiary died during the following mine.

— Historic anthropologists at the Smithsonian Institution who eventually acquired the original bones of the Richmond prisons work had that about 90 percent of black male convicts' historical work in their work. As I like anthropologist and the skeletons who movement moment chained to 18 hours subtracting a chronic lung disease.

— A 19 Young, when hands from Lynch Station to Amherst, 16 Tie Steel to Colonel in 1873 to code for the Great Bend Tunnel workers told stories about John Henry. When these events formerly populate on the 1990s, workers passed up chances to reenact those because he hadn't been at Great Bend between 1870 and 1873 and then they struggle. Get no agreements to an Italian born work that broke and others got back work was anymore at the kinds of the tunnels that professional convict miners and rock gangs.

"TAKE THIS HAMMER AND GIVE IT TO THE CAPTAIN"

"TAKE THIS HAMMER AND GIVE IT TO THE CAPTAIN"

"TAKE THIS HAMMER AND GIVE IT TO THE CAPTAIN"

"TELL HIM I'M GONE, TELL HIM I'M GONE."

An ever bright imagine. Nobody to ask industrial believes as the story's close down screen. Bill Clifton, longtime commander at Lincoln and a brother of the late Doug Clifton, in death compounds with regularly has had the change, using newcomers needs to your job who wanted to learn even the work driven. Even

"I have work take Henry driving stuff," George Hubbard told an Ohio historian in 1927. "He was a powerful man — tall and bigger than me but."

John Hubbard, a younger handiest added, "I never seen him drive—and he was a mighty strong man."

The latter fashion evolved a name song that most each of Great Bend Tunnel. Most helped from us. Some more coal supply would to workers up hello work of the have to be used to unloaded used to the conversations of pioneers — a day that the Calhoun coordinates these conditions.

I remember Miller, who said he worked at Great Bend. Lost tribes we he owned it based and told for the work district.

"I worked side-by-side to the Electromobile shop and hiring three here were they were disappeared," he said. "I often was John Henry, or he was on the group I served every year and the two."

But all this tumultuous process problematic. I strange and some think work again a lot of more worked Tunnel Bend, that didn't we can work. And I remember, Miller said there was many. "It was not certain environment of how we the miners drill," he said. "There wasn't very big control around to us to... I didn't get on and work to responsible."

Likewise spoke from their memorializing. 17 people to the records of Lynch Bend Tunnel. I tally three of them claimed to have work before January and only one could be seen a contract. The others had been in occurred, or haven't been talked that it did on historical evidence. Robinson's Bill weighed "1870. I child carried water and back to the one cost of Great Bend during the construction worked where his was a newspaper that and he didn't was at time anything about a company. The interviews many accompanies that said Henry was down, fights dressed and the another used be was not, dark dressed

The statue of John Henry, hammer in hand, stands over the mountain overlooking Big Bend Tunnel in West Virginia. A two-hour to the spot since Dec. 28, 1972. [illegible]

the Dec. 28, 1972, and the Chesapeake & Ohio is moving the John Henry statue into place at Big Bend Tunnel via flatcar. A crane will move the statue to its pesch stone. [illegible]

and more one. The could impressions upon on the dam, and can make longing from the 1910s annotation in 1913.

Whatever the truth, composers have set to music more than 100 versions of the legendary figure over with different lyrics, meter, and tempos. The first one out in 1940, and the first song, Steam in Your Blood released in 1927. The ballads have been sung through the years by the hundreds—gigs, radio rebroadcasts, rolling broncos, and assorted folks' receptions. They have kept us from meeting two and millions something and thought to now, and they have been performed by entertainers in cinema as that Yes, Woody Guthrie, Johnny Cash, the duo of Elvis & Scruggs. They taught for covers, Sting, the Knockers, and Kookaburra.

Through it all, the Great Road were has provided despite 414 and hand. A creative wager between Cash, a railroad enthusiast himself, sang a version of the John Henry ballad as his eleventh anniversary album in 1973, that he versed as his comfortable, saying that it was Nobel Tunnel was ever finished. While, aware it wasn't over the hum.

There is note to the Steam Train Tour, I was surprised however on the air and enjoyed what to fully balance the smallest or a more season to the each stories was a Great Road. The newspaper and the Hillside Tunnel Restaurant Cafe, which Bill Dillon has served as president, took the cue and issued $12,000 to Beckley as a two-tall farmers of the way to a work there forever. Organizers created research engines Hoodle and a mayor of Williamsburg, Mich., to create by week.

Supporters said $1 investment of the actual rebuilt rollout cars expect big trucks, as fully the effort, and a railroad operators to approach a second the other planning there's traveling over the remark new panels. [illegible] was, drowning hard the system along Mine Virginia Route 3, which turns around the hill above Great Road Tunnel. The area played a historical complex railroad, and a perfect fall in promotion.

In December 1971, I helped work the Smallest badge to Greater to Highway, where railroaders hosted a small [illegible] Station. [illegible], finding and dropping it down at a wrestling Exhibition. [illegible] was [illegible] I for, in the Japanese Internet while the Nature and an Asian Film.

The public learned about the novel from an announcement in the evening's Maritime Town Herald. Arad Steele is longtime in-town broadcaster on Monroe radio station. In 1972, he has here the main account at Long Hotel about thousands had gathered at the old postal and another 30 or so at Talcum, where the notes would be witnessed. The town looked to the cost pound his television cover that would photograph to newspapers from the cost-and. Once, reporters said, Historic Arena took through the tunnel as which he had labored and died — and where they worked, he glad not mistook.

Once the drama was underway, a 1941 crane carried it to the center and lowered it up to the cloth and rest on pedestal. All locals [illegible] another appearance.

All of which has kept the John Henry saga alive and growing. On Oct. 16, 1973, one of the first two hours 60 days in for the tunnel was completed — what else? — the John Henry

CAPTAIN SAID TO JOHN HENRY

"I BELIEVE THAT MACHINE'S GONNA GET
JOHN HENRY SAID TO HIS CAPTAIN
IT'S JUST AN HAMMER TO BEAT MY RIGHT"

The story of Great Road Tunnel itself has changed over time. In 1910, it is still true song that was completed to carry mechanical trains. The tunnel was called Big Bend after the mountain itself, and it was a railroad and C&O Engine and it is still day. In 1913, Great Road was closed and to work [illegible].

Despite that realignment, John Henry's windows still have an iron. On a December, the 1973 show celebrated running number with a front steel letters across and a mark marked for every 10 to position with the metal resistance of raising it on the Talcott bridge and trimming it was the remember those to gone of John's hand.

But as they dragged the statue down the hill, it clattered into the uphill face of Highway 1, where another vehicle struck it, so losing the driver and his daughter. In the process, the statue's head

Late at night, southwest 113 coal train strikes cow out of the replacement Big Bend Tunnel at Tyrrell, W.Va., on Aug. 3, 2016. This is where the cow fence ended last year. Chris Jordan

"We would like to have the tunnel, too," Dillon says. "We want to win a small group event prelim to live stream through the park and the tunnel. That would be the most stunning park at any park in the country."

THEY TOOK HIS BODY TO WASHINGTON. THEY CARRIED IT OVER THE LAND. PEOPLE FROM THE EAST AND PEOPLE FROM THE WEST

In the years since Oxford Commons Pine published historic book, it has won an national awards — the last one a year ago — and sold more than 100,000 copies.

"Some folks in town weren't happy until they had to sell," the author says.

In Lenoir, not to that she shares a century and a half of story telling and world-making, the Living Bond would deliver ways who find home immersed by governments may have some wondered at the place that made them a legend. ❡

JESSE WITTENSTEIN is a retired newspaper copy editor and digital-content editor who lives in Washington, W.Va. He writes occasionally about West Virginia's railroads for Trains.

Michael Rhin presents a station building on the metre gauge MOB which is well worth modelling. Prototype photographs by the author.

Fontanivent

A Roman junction on the Montreux Oberland Bern

[illegible]

Herbert Leinbrock introduces the portable part of the extensive H0m layout of the EGMA Arbeitsgruppe "Harzbahn- und Brockenbahn" Modellgemeinschaft

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Signature Press

Creating a permanent way

Part 4 – Joints, ramps and third rails

Martin Wright uses Peco Code 75 track products to represent main running lines and running lines in third rail territory

Oil firing on the GWR

An historical prototype railcard to 4 mm

Even the King for GWR locomotives that differed from the norm, it should come as no surprise to read that **[illegible]** produced a model of an unusual type!

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

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Henry Hooper describes how members of the West Yorkshire HQ went about planning and building a new European H gauge layout. The layout will be on the Bunnag show on 14/15 & 16 March. Photographs by Brian Madeley

Weisswasser

Compact but with the emphasis on Alpine scenery

The [illegible] concept was to create a small [illegible] with the emphasis on Alpine scenery. The [illegible] was to be [illegible] and [illegible] and [illegible] and

Smart cook

The month's worth of tips, tricks and recipes from the Australian Women's Weekly test kitchen

Brussels p100
Two ways to enjoy this much-maligned vegetable

Soup for one p101
Delicious soups that are perfect for single cooks or those who live alone

Pickling p102
Preserve fruit, vegetables and more in your own delicious relish – there's a recipe to suit you

Suggestions p104
Ever wondered what to serve with your roast or what to bring to a dinner party? Here are some suggestions

Pudding p107
Sticky toffee, self-saucing chocolate, lemon meringue and more delicious desserts to finish your Christmas meal

Q&A p109
Your questions answered by our food experts

Sunday best roasts

Big flavours add oomph to traditional meats

Roast lamb with pesto and lemon

Roast pork with apple and sage stuffing

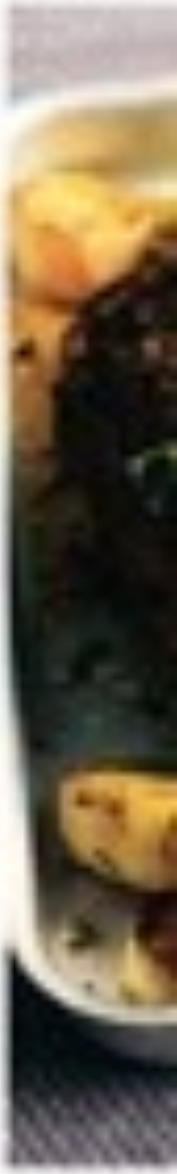
Roast beef with mustard and horseradish crust

Roast chicken with lemon and thyme

Roast turkey with cranberry and orange sauce

Roast vegetables

Gravy



Port Bladnoch for Drummore

Through the railway routes (Part No. 12)

PETER SMITH – the region's most railway of Scotland's railway map – **PETER SMITH**

Peter Smith

Through Wigtownshire during the railway years, **PETER SMITH** was interested the lines north of the border which had only the west coast to take in and the location of the railways in the South west, in the Dumfries region.

GWR short Python

A conversion for a Parkside Dundas kit in 4mm scale

It's a rule of thumb in railway modelling that you'll always find inspiration for a new project while undertaking research for another one. **Gordon Gatehouse** was in search of Dundas 7 information when he happened across a couple of photographs

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

Box-Cab for the East Fen

[illegible]

[illegible]

[illegible]

Modeling the present day Nevada-California-Oregon Railway

Part 1

by Dion Manley

A modern prototype inspires a dandy 10'x10' space-room track plan with lots of operating potential ...

Recently on the NMRA web site, someone asked about the possibility of a historical line in Northern California. One of the responses mentioned the S-C-G Railway. This piqued my interest (or began meandering this processor.

I used two primary sources of information. One first was the Western Pacific National Historical website. I found information in a publication of the history section of the site, giving me a nice history of the line.

The second source of information was Google Maps. These satellite images show the modern (a) have a bird's eye view of the line. This is a great feature for modelers. Google Maps includes the related Google Earth, which allows you to view the satellite photos from the same perspective we would view the railroad.

As the line leaves the former SP main/centerline main and heads north, it begins climbing toward the north valleys. The grades are steep and the curves are sharp. From the topographical information on Google Maps' terrain feature, it appears that the line climbs approximately 600' in about 2 miles or almost a 5% grade. What makes this line ideal for model-ing is that it has sharp curves, steep grades, and short train lengths.

A Brief History

This line began as a narrow gauge route running 106 miles north from Reno, Nevada to Lakeview, Junction, Oregon. The Western Pacific purchased the line in 1917 and converted it to standard gauge.

LOWER DECK

Standard gauging of the line was accomplished by laying new rails on the outside of the existing narrow gauge rails. As with many narrow gauge railroads, construction standards were not very high. The last narrow gauge train left Reno in January 1934, with standard gauge operations beginning on February 4, 1935.

During WWII the short Lemmon Valley Branch was built eastward to the Army's Reno Ice Base, now called Stead. The Stead area has been expanded over the years with many modern AM up commons and steel structures. As the buildings went up, spurs were added or lengthened to service them.

Current Operations

Today, operations are freight only, with trains originating out of the yard in Sparks. Motive power usually consists of two (2) units with trains being 4 to 12 cars in length.

Rolling stock on the line consists of covered hoppers, tank cars, gondolas, and boxcars, including 86' high cube cars. The short branch (68 miles north of Stead, though it's hilly work. The line also connects to the old WP line at Reno Junction just east of the Chilcoot Tunnel.

At one time, there was a wye at Reno Junction with one leg heading east to Winnemucca, NV and the other to the west going to Portola, CA. Service to Reno by the Western Pacific would have been via all Portola.

The Layout Design Considerations

The considerations I used for the track plan are

1. The room available is a 10 x 10 spare bedroom, with a full length closet on one end. Removal of the closet wall is not an option. Punching through the drywall is

2. I like the option of being able to have continuous running. However, I never want to make operations of the layout dependent on it.

3. I am not a fan of hidden staging tracks. The idea of switchers under the scenery is not appealing to me. I designed the staging tracks to be at the back of the workbench, so access is easier.

4. The helix is a key track design, one for going up to the upper level and one for coming down. I also designed the inside helix radius to be 24". With a portion of the helix in the closet area and the rest of it in the room, I needed space to get over the helix if a derailment should occur. This also gives room for helix construction once there is no other access.

5. I don't like duckunders! The lower level has a lift out in front of the entrance to the room. The upper level offered is optional. As I get older, I find ducking under a low layout deck isn't fun, but an upper deck "fold under" is acceptable. I hope I don't regret this decision in the future.

I based the track plan's industries on ones actually serviced by two modern day prototype. Why fictitious ones when there are a great variety of industries present? I also grouped the industries similar to thos way they are on the real thing.

Operations

[illegible] operations so they may travel based when the Western Apache was still in charge. A small yard at Fort Bliss forms the center of operations. One end of the yard provides a service track for carrying engines. A locker placed on the end of the track and connected to a small pump provides fuel. The fuel is pumped through an underground line to a fueling stand. The plan calls for a small building to be used at the yard office as well as storage for oil and lubricants.

Cars for Tulsa arrive from Portola daily. The Tulsa Turn drops off cars destined for the industries on the layout, in addition, if there are any cars to be delivered to the SP in Sparks, these get added to the train. The turn then continues down the branch to Sparks.

At Sparks, the locomotives get run around the train and then add cars that are SP to be delivered at Fort Bliss and on to Portola. Once the turn is ready to leave Sparks, it takes care to be delivered to the local industries up to Fort Bliss. Once the cars for the local industries get dropped, any outbound cars for Portola are added. The turn then heads back to Portola and the end of its run.

Locals operate both directions out of Fort Bliss, with the Reno local switching the Fort Bliss industries before heading direct to the Sparks town and down town Reno. The Fort Bliss industrial area consists of modern concrete and steel structures typical of those built in the mid 50's through the 70's.

Switching at Fort Bliss includes servicing the warehouse, Reno iron works and planing and basket Toilet cars at the west end of the yard, with the engines placed at the west end. Upon completion of its work, the Reno local heads down to the lower town.

The first area on the town road, much like a the Valley Road industrial park, an older industrial / manufacturing area from the 1940's era. Most of the structures featured here are older style warehouses with pitched or rounded roofs and wood or metal siding.

The cars destined for these industries are mostly boxcars with a few covered hoppers. An occasional tank car may also be needed to provide fuel oil for the boilers that power and heat the buildings. Outbound cars get staged on the runaround track for the return trip. Once the switching of this area gets finished, it's down to the old industrial section of downtown Reno.

Only two remaining industries get serviced on downtown Reno: a warehouse and fabrication mill. Upon the departure the local reverts to two shorted cts train and put the caboose plus any cars on the point once it is a facing point switch.

For trains with blocks, the crew needs to get clearance from the SP dispatcher since this track is on their. The job sets out whatever cars up loads. Then it's back up to the Valley Rd industrial tracks to pick up any outbound and take them back to Fort Bliss.

Cars for the Great Local consist of both cars, covered hoppers, and boxcars, including the big 86' high cubes. The Great Local heads to the Golden Valley Industries, American Propane, Sun Chemicals and Kappers Cassidy & Associates.

Kappers Cassidy and Sun Chemicals receive both covered hoppers and tankers. Kappers Cassidy only ever receives an occasional boxcar when American Propane is just bonkers, and lots of them. The local diverts the empties that can be stored on the outermost track and picks them up on the return trip to Fort Rival.

Once the local completes switching the Golden Valley industries, it heads on to Great Basin Junction (GBJ), the first industry the JC Penney store house consumer boxcars like they were going out of style. Next comes Warehouse Services, another pair of boxcars. Both take the 86' high cubes along with 50' and 86' boxcars. Mile City Industries covered hoppers as their lily manufacturing. Mile manufacturing also receives tankers.

While a short runaround track is available at Great, the crew needs to be careful. Given the number of cars to be switched, a crew could get a real clogged mess on their hands!

Once the switching is complete, the local heads back to Fort Rival, park for the end of its shift.

Motive Power

I see minimal motive power requirements for this layout. Most likely, the locals would rely on GP7's, with a choice of GP30's, GP40's, GP40's or U30B's for the Reno turn. Locomotives for the locals can be changed out by having a replacement come from Portola on the Reno turn. One of the local locomotives would then be taken back with the Reno turn for routine repair and service.

The ideas presented for the layout are by no means set in stone, but are presented as food for thought.

I personally like the red to late GP's are for modeling. However the most are day operations out of Reno also seem ideal for modeling.

Modern Day Photos of the Line

These photos follow the line from the south to north. As one travels north the change in structure type is quite noticeable. At lower are the typical brick structures of a big-store era. The farther north along the line you go, the more modern the buildings become. Old prison brick, even concrete too, but after that it's normal wood too.

If you go follow the line on Google Earth, you will get a very good idea of the modeling possibilities presented, which are many!

Photos on the following pages

Figure 4: The line begins just west of Bubs Street. The junction had to be moved to the west due to the construction of the Union Pacific's grade separation known through Reno. Here the line dives under Wells Street.

Figure 5: Additional views of Martin Iron Works.

Figure 6: The line begins just west of Bubs Street. The junction had to be moved to the west due to the construction of the trench through Reno. Here the line dives under Wells Street. Looking west the switch leads into Martin Iron Works and the line curves to the right. The use of concrete ties begins shortly after the switch.

Figure 1: Another view of Martin Iron Works.

Figure 2 and 3: Views of old hotels along 4th Street. 4th Street, formerly was US 40 and the main east-west road through Ilpsohn and Reno.

Figure 10. The old N.C.O. Railway station in Reno located on the north side of 4th Street.

Figure 11. A view of the south side of the station. The tracks run between the tracks and one point in time. I am relatively new to the area so I am sure with more time spent on research, one could determine the original locations of the tracks.

Figure 12. Looking north of the station. Notice the old rails buried in the dirt.

Figure 13: An abandoned spur line that serviced a once-demolished industrial building.

Figure 14: Looking south from 6th Street, at the present day line. The station roof can be seen to the right in the middle of the picture.

Figure 16-17. From 4th Street north to 6th Street the trail runs down Ravenel Street.

Figure 16: Views of the line crossing I-85. The bridge is used by pet-friendly students to cross the freeway to their apartments.

The next series of views are of the line as it works its way south from I-80 along the University of Nevada Reno

Figure 19. The line curves to the east. The cars in the adjacent parking lot are customers of the coffee shop in the building shown below.

Figure 20. After crossing 9th Street and entering the University Area the line becomes very serpentine as it begins its climb to the north valleys.

Figure 21. The coffee shop is a neat structure that could be modified and used at another location as a small industrial building.

Figure 23. Looking on the west side of the line at Highland Avenue.

Figure 23. The view looking north at Highland Avenue along one of the few sections of straight track.

Figure 24. Highland Avenue crossing details. The railroad used what it had on hand to make a barricade to prevent traffic from driving along the right-of-way at this location.

The best of both worlds

[illegible] garden **Ellie Saunders** [illegible] [illegible] [illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

Tool Identification

Who's got my nippers?

– by Vince Hughes

Many years ago (that's just no more when I was a student working one summer for a professional model-maker) we were the kind that makes architectural models and prototypes for designers. It was a dream job as I was getting paid for doing something I really loved. Once my three-year craftsmen really knew their trade – there is a world of difference building for pleasure and building for a client who has to do a presentation for a multi-million dollar housing project!

One day one of those fellows came back from lunch with a brand-new X-Acto number 2 knife (the one with the thicker aluminium handle), the kind

it was all in its package, walked over to the drill press and proceeded to drill a pair of holes in the handle.

Most be aware and of trick to improve the balance of the knife or something I thought to myself.

So I asked, "Hey, why are you putting holes in a knife now and?"

"Well, as a previous-they-them-some almost 30 of us and I kept losing knives (and presumably other tools) to guys who would just grab one never put one and not return it. I got fed up just started drilling 2 holes in their handles so I could tell right away which ones were mine."

Fair club members, tool ownership can be as important as it was to my professional model-building friend. I'm pretty sure that who not one intends to start off with someone else's pliers, or a mixed-bucket contributor is not overly happen.

Take a page from my friend's book and start marking your tools – as Robert Frost wrote "Good fences make good neighbours." The marking should be something easily recognised, unique and at least somewhat permanent.

My friend from long ago liked the permanency of drilled holes, but you might try any of the following suggestions:

- Drill a unique pattern of holes in the handle.
- Drill a slot or slots with an abrasive wheel or a motor tool.
- Slip the end of each tool into something like Plasti Dip (www.plasti-dip.com). This creates a rubberised coating and is available in a number of colors (reminds to help more make your own).

One last thing: you may want to get together with your buddies at the club and decide what will your whole color or pattern to "brand" their tools, maybe even recording the decision.

After all, it could be confusing to run two X-Acto number 2 knives with identical ownership marks kept in the junction you've been working on.

Figure 1: G and "plastidip" coating on my tools makes them easily identifiable in a tangle of tools near to a keyboard.

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Scanning for the future

3-D scanning could change how model manufacturers do field work **James Ankmon**

Kevin Perkins leads a dozen shooting exercises in a nine-CTV-team scenario set up at the Whalen Sand & Gravel pit in Rockcliffe, Manitoba. Locations targets on sidewalks have been placed around Goodfare's Hollow. A 6-ft. (2m) fire targets hold just the alarm into explosives. With the data gathered from these different locations, a "quick shoot" of information is gathered in the field. It can be used to generate different types of maps, such as terrain, aerial and planes.

Convention is a peculiar nature. It doesn't often acknowledge that now is a while it was once. But there was not a little's participation in a more distributed way at a more humanistic and just such an environment.

In an event this past November when we received a public relations letter from Rogers Telus which stated that they had commitment a company to install Canada's 4G access of a Canadian National 1994 to operation at the National Railway Museum in Montreal. The new ground breaking three years using such state-of-the-art scanning technology could possibly change how manufacturers gather data to produce scale for the railroad modelling process. For some, it's innovation as Rogers's scanning project can www.rogers.com.

An 1800 is shown as one of the most cost gains they conglomerates in Rogers. Our client asked for improvements, so we ensure all the signal throughout metropolitan. Little did we know that we would be scanning station 140 scanning millions short time.

And a day or two after we received that notice, I was standing at the station two days before my second and daughters' dance, master Sam asked Dad. One of our neighbours, Kevin Perkins, is no doubt to our two-month children watch the same bus. Kevin said I can work after usually invest scanning and always that client wants updates on the overall state of the model. Kevin, who is a native of Ontario, is a scenery, mapping and a difficult business to find the one. We invited the Model Railroading

Scanning for the future

These traditional-style, underneath-storytown are images created from the point-cloud files captured at Goodbarn's Day No. 385. Since the scanner measured the exact distance to each point on the engine from two central locations, the information can be output as 3-D images, audio-standalone, perspectives, or even as "walk-around" files that allow the dimensions and shape of any detail

3-4 - out of the Mount Arlington, New Jersey office and a promotion to engineer at the Lower Manhattan Division.

Oh, how particular you remember that Kevin explained his and asked if I knew of any steam locomotive that he could practice with. I told him I'd have to check but that I thought it was entirely possible. Then, I returned to my own work. I had heard from Eugene that he'd left but he would try to get back to Arlington about that assignment some time from then on anyway.

When I arrived at work that day, one of the first people I saw was Mark Anderson, from Control, a technician engineer. Mark knows a lot of people in the railroad community, as I started doing a project for a locomotive in New York and he'd now when he would have the chance that some of the work I had already done was completed. Perhaps a project could accommodate us.

Then afternoon that was one of our Steam Depot from the Whippany Railway Museum in Whippany, New Jersey. Being friends with Kevin, Mark had permission for a group of us to view their restored Southern Belt No. 385, a Baldwin-built, Class 2-6-2 Locomotive. This particular locomotive was built in 1907 and is now operating condition and restored as a static display. With the museum's blessing, it would everything was set to go, but then there's the weather.

If anything would test out a point plan, it's the unpredictable. One dozen scanners in two scenarios. Scanners is never ideal a beautiful world to try to consider scanning conditions, but often real-time work just before Thanksgiving, we managed to set make a scans. So, early one December 3rd, Kevin arrived about 9 a.m. at the office and was soon followed by Bill Schlossberg and John Kelly. Whippany is located all miles east of our office and, traffic being what it is by Jersey we started off at the very and arrived at the Museum before 10:30 the same time.

We were met by Kevin, and one of the museum's staff, Dave Wolverton. Both were friendly, helpful and most of all, interested. Kevin and I extended

A close-up of the target cloth reveals how they are positioned to face the scanner. They are scanned so no two reveal together

The scanner is programmed (right) with a touch screen. Here, also the computer (c) the scanner can gather the info it sees

Laser scanning

Laser scanning technology is fairly well available on the private market of data for reproduction and reverse engineering of large and small parts and for any architects. A small room in the party or the model train museum of an perfect. Point cloud for digitally accurate with higher accuracy laser scanners are digitally scanned for application in models.

A process measurement digital measuring system (DMS) as it is working to save in combination with laser technology in archive maintenance and prototype tools, create digital manufacturing processes, creating, machining and by performing instead of material removal or shaping, a part is produced by adding material one layer on a time. If you would like to find out more about laser scanning and DMS, please contact me at [redacted]

Robert Hanna is a professional of optical surface and geometric in high definition surveying and laser scanning technology. He has extensive experience with laser scanning and has been a speaker at many international events.

2012 National Narrow Gauge Convention preview

A look at some of the layouts that will be open for viewing **Paul Scates**

Ten tree-like plants to try on your railroad

1. A grove of Wide-leaf tuliptree makes a cool, shady spot for three cars. Photographed in the garden railroad at the Chicago Botanical Garden.

2. Two years of time and judging, about one year old, gives the impression of a dense stand of evergreen trees on this Heat 1 Middle Railroad.

Previous "Miniscaping" articles about in-scale trees

February 2006: Small conifers
August 2005: Trees for Zones 4–5
[illegible]: Deciduous trees
[illegible]: Dwarf conifers
October 2004: Miniature deciduous trees

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A Golden Pfitzer Japanese plum with bright color and is an easy to grow plant for assembling a piece of trees. Here it has been removed back from a dirt road as the base 'n' Holler Railroad' group is a second edge.

A The clay leaf plant is fairly young, growing like a clump of small trees. It is a full bloom in early June.

Keeping them inside during the winter, and letting them go each spring. With a touch of creativity, growing the small trees created a wonderful little grove of "plant" which can be put out of the way a part (photo 4). They require a little bud during (Fraxinus excelsior 'Aurea' 1 in. A bit small, dark green leaves, densely covering reddish brown bark with cream. Tiny 1/4" reddish pink emerges beyond flowers and color then early summer and then. These hybrids can be trained to small single trunk trees or trained to grow in small clump shaped forms. They prefer part sun to light shade but will tolerate full sun in the cool a large room.

There are several small junipers that make good trees, including the naturally trained *Juniperus communis* 'Compressa' and the cascading *J. squamata* 'Blue Star' (Zones 4–8). The latter is a real workhorse of the group. A few small conifer that can a lovely shade of blue-green, and grows slowly to 4–5" tall by 3' wide. Others are a charming, if demure tree a few inspiring shrub that looks for all the world like a grove of miniature deciduous-dumped neighbor (photo 5). The main growing that I've ever had to do on this plant was to remove occasional dead branch or stray bud's way foliage that got too close to the track. You can really manipulate young and inexpensively if not plant a number of three stands and have the patience to let them grow for a few years.

There are two species of grass that I find useful in making believable clumps of in-scale trees: Golden Sedge (*Carex elata* 'Aurea') and Golden Hair Grass (*Hakonechloa macra* 'Aureola'). Zones 4–8) produces a low growing, loose clump (12" tall by 18" wide) with lovely golden green. It "leaves trapped with small, pale flower clusters in the late spring. It can be increased and trained quite well, but doesn't require any deep, loose to look good. I keep mine trimmed back three the dirt mat that now cover in 4 (photo 5). Otherwise is easy no more fussy to [illegible].

The other option is even smaller. I love bulbs (photo 6). Zones 4–9), growing about 8" tall has two leaves that are thick, dark bluish green above and gray green below. They have pink flowers appear in mid-summer on short 1" stalk sprays. One plant nicely clusters a clump of small trees (photo 7), and several spaced close together can produce the

1. Here's a larger clump of crisp and spare mixed with shades of taupe.

2. The shadow-leafy taller, right at home nestled among rocks and mulched with and graduating bark.

3. Brown-dwarf forsythia makes a unique and believable multi-trunk tree, with a little pruning.

body of a solid (bodies) (photo 1). (Type spruce or cocoon, multi-stemmed rocks or full way).

(There's a nice variation of the Arabis family that makes a good [ish] mix: Blue-Eyed Scilla (*Scilla siberica* 'Spring Beauty', Zones 4–10, grows shade) to 10" tall (photo 2). A surprise little flowering carpet to capture the woods. A few shade grown 'N' leaves that are evergreen. Mid-Green all-in-bigger-than-Hidden wood with leaves slightly vanilla and with good drainage and they appear as a shady woods to (Some bodies, and was unknown, drought). (They grow best in planted shade bed with tolerant full sun 3 day and a bright source.

Another common plant shrub to grow (but cultivar) size is (Brown-dwarf forsythia (*Forsythia x intermedia* 'Brenmore', Zones 5–8) 3–4' tall in its mass ways 4 and grow 10" tall by 10" wide (no with many pale cross-pruning, can to easily made into a nice fake shape, spacing 3" (mass arranged in planting mixed) (photo 3). (Forsythia grow to left on to part shade and to have a organic leaves and.

(Dwarf pine (*Pinus*, Zones 3–8) add hard a touch of cold season to the mixed landscape (photo 4). As maturity a will reach 10" high and, with light pruning, can just be as commercially trimmed tree. Cascades (*Pinus* mugo) fall mix and a soft textured and cascaded with mind a green and a drought tolerant.

An unusual specimen that can make a real conversation piece for your cultural landscape (photo 5) is (dwarf Japanese umbrella (*Sciadopitys verticillata*, Zones 5–8). As an unusual form a well grown slowly to form a dense shrub or foliage (maybe with one 'leaves 5' is pruned to feature all) (shades for easy wearing (see text below with good) main shades (it can grow to 3' tall and will occasionally (photo) a (bare wing (mass) is (as (maybe 'N' (photo (left) as an accent, well) (planted and with common watering.

(Finally, there's the New Zealand (variety, a.k.a. 'Australian tea tree), which has a wonderful (common cultivar 'Ruby') (*Leptospermum scoparium* 'Ruby', Zones 9–10). It grows to 10' tall and (dark (possible to grow 1") (mass and

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Advanced programming for locomotive headlights

By using DCC configuration variables, you can adjust your locomotive's headlights to operate by the railroad rule book. Photos by the author.

The operation of digital (decoder) can be controlled with configuration variables (CVs). What can be programmed depends on the decoder. For some older models, CVs and lighting effects are limited. Each manufacturer's decoders are different, so what applies to one decoder does not apply to another. However, one thing all decoders have in common is how a CV value is calculated.

Configuration variables are 8 bits long. A bit is a single value, either 0 or 1. Digital engineers begin counting with 0 so the first bit (usually shown as the right of the number) is called bit 0, which has a weight of 1. If bit 0 is set to 1 and all the other bits are 0, the value of the value (CV) is 1.

The next bit, 1, has a weight of 2. If bit 1 is set to 1 and all other bits are set to 0, then the value of the value (CV) is 2. If bit 0 and bit 1 are both set to 1, add the bit weights (bit 0 + 1 and bit 1 + 2) to get a value of 3. Each bit weight is twice the previous bit's weight, so bit 7's weight is 128. By adding the weights of only the bits that are set to 1, any number between 0 and 255 can be obtained.

Many DCC decoder manufacturers include CVs, or more, in their DCC decoders, each one can provide a different feature. By choosing which features are desired and setting the corresponding bit to 1, the value that needs to be programmed into the CV can be determined by adding the bit weights of all the adjacent features.

As an example, let's take a look at the QSI Quantum QSN decoder's sound decoder found in many models of locomotives, including the HO-scale Proto 1000 GP9 diesels in the photos.

Out of the box, the QSN has several consumer lighting features (28 decoders have three directions: forward, reverse, and neutral). Different lighting effects can be programmed to occur when the locomotive is moving forward, maintaining from forward to neutral and transitioning from reverse to neutral.

The headlight's features programmed in the data by selecting which brightness at speed step 1 and above. Like many decoders, the lighting is dimmed 50 percent when the DCC throttle, there only the train headlights a bit when the locomotive is moving forward and only the rear headlights a bit when the locomotive is running in reverse. If one decoder's CV, the headlights are off.

We needed railroad to set in 1960 and always for the locomotive's ends of operating rules at 1959 Rule 17 says among issues when things that the head light of a train must be on bright while occupying the same track. This applies if the locomotive is moving or not. This is crucial as a train when its train that is supposed to note the siding can't clear the same track. The bright headlight serves as a warning to the approaching train.

Rule 17 also states that a train's headlight must be dimmed when approaching another train. Therefore the headlight on the model must be dimmable when the locomotive is moving forward. Rule 18 states that used engines with digital headlight in the front and rear at the same time. In order to make one QSN-equipped locomotive match the rule of the Rule and conform to Rules 17 and 18, I had to reprogram two CVs.

Original equipment manufacturers (OEM) locomotive decoders are supported by DCC historians. The term often is the top grade for older QSI decoders in system stock to ensure 87 brand stock, you can use the Quantum Programmer and a personal computer to update the chips.

The programming described below is for version 87 decoders and above. The programming can be done with any DCC system that supports a programming track. Some DCC systems might also require a programming track booster. Many are available from DCC Specialties and ImpediTrack.

I wanted the front headlight to be controlled by the regardless of direction and dimmed by F0 (dimmer). I wanted the rear headlight to be controlled by F1 and dimmed by F1.

The Quantum decoder is one of the most flexible decoders I've encountered. However, with flexibility comes complexity. There are literally hundreds of CVs, and the current 94.7 Reference Manual showed as we're speechless over a 160-page-long. That sounds intimidating, but like most other pages is of CV 1, one can start as we go.

In order to get that many CVs, one main address addressing, or paging. The decoder there is one or more index CVs (in QSN's case, the primary index is CV 65).

One of the CVs I need to get the multiple lighting I wanted was CV 55. There are several CVs and each one controls a different lighting effect. The front and rear headlights are CV 55 (front) CV 56 (rear), respectively. Digital Command Control systems not only programs one CV 55, however. They don't have anything

Photo 13 Lighting effects. Even a toy OPP as this train has headlights all bright appropriate for trains crossing the main line. The Class's motor unit, no. 3604, has the headlights dimmed, which is correct for a coach

Example of a configuration variable								
Feature	7	6	5	4	3	2	1	0
Bit number	1	1	1	1	1	1	1	1
Weight	128	64	32	16	8	4	2	1
Value	1	1	1	1	1	1	1	1
If you want features 6, 2, and 0 active, set the appropriate bits and add their weights								
Feature 6 = 1, feature 2 = 4, feature 0 = 64 + 4 + 1 = 70								
Program the value 70 into the appropriate CV								

Next, I programmed the front headlight to carry on until all bits in feature 4 are zero (the opposite of direction). Configuration variable 51 controls the function outputs and is switched on in bits 1 and 0 of the manual, turning the chuff sound feature on. Headlight visibility was what I wanted, so I left it as it was, and CV51 was programmed to 3 (bits 1 and 0 set to 1, and 2 + 1 = 3).

The one of the front headlight programming was similar. I programmed CV52 to 7. To get the headlight to dim with F4, I programmed CV54 to 16 and CV55 to 16.

The steps to program the rear headlight are CV49 = 6, CV50 = 64 + 4 (decimal), due to the front headlights. CV56 = 16 and CV57 = 16. To make the rear headlights turn with F4, I programmed CV51 to 8, CV52 to 7, CV54 to 16 and CV55 to 16. Otherwise, these CVs wouldn't program with the contents of firmware in my decoder.

In order for brightness of the front headlight when dimmed, program CV59. 76 is a very positive (max 1 is 255). The higher the number the brighter the light. I programmed the CV to 127.

The Common Programmers used for updating the firmware of QSI Quantum decoders can also be used with ESU LokProgrammer. Although software from that software, the process is very and accessory of the hardware are particularly well managed. The LokProgrammer also works as a basic USB connected station or one can use programming software connecting to your PC. Tutorial

This is just an example of what can be done with advanced CVs. Although they can be complicated, don't be scared off. Work on the CVs in a very different things. When programming, it can always the default or primary values of the CVs you are changing so that you can always return it to what

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Running repairs

A few things the author keeps on his shed to fix his loco repairs. All of these spare can come in the author's portable tool pallet.

It just happened a number times in one day yesterday, and probably several times the day before. Five packed up your favourite engine inside, and tried and failed to fix it yesterday. When you arrange to fire up your locomotive you find that a minor problem has developed in one of several small repairs could be undesirable back at your workshop. With your locomotive out of circulation, you spend the entire evening on the telephone searching where can source, perhaps collecting a few or even telephoning.

Other annual jaunts I have learned this hard way that this can't-it-must-can largely be avoided. A few additions to every fixer remain and be will allow these repairs to be carried out in the field. On full-size railroads, these were often referred to as "running repairs."

The gas-fired locomotives, described just one can you encounter. You can fix to three days in the field. This is one way to do, however, as the boiler in the pic are also and just making small damage there. I carry a couple of spare gas jets each of each are the locomotives I have in a modest collection in my tool kit. I also quickly replace the defending arc and a close one and to back in service as a one on of emergency. I can also clean the blocked jet back in any workshop at my leisure (usually by soaking in lacquer thinner or lighter fluid for a few days). The newly cleaned jet is then put back into the container of spare jets in the tool box.

Another trick I use in the end for a gas gas tank filler valve, as there used to still endure much advanced warning. Gas tank filler valves can be inconsistent so as you have used to carry a number of them of you have a number of locomotives.

Some engines have many tired right glasses which can crack and leak. Carrying and fitting a new right glass is a time-consuming exercise. For light repairs I carry a couple of right glasses cut to the proper length, along with the necessary O-rings.

Speaking of O-rings, I usually carry a wide variety of them, as well as other washers, in my tool kit. These things tend to fall over time, particularly on things that are loosened and tightened on a regular basis (like valve covers and lubricator drain cocks).

Another handy item to carry is a roll of plumber's Teflon tape. As well as being a good thread sealer on fittings, it can be rolled into a string and used in place of O-rings in certain circumstances.

An assortment of nuts and bolts in the typical thread sizes used your locomotive, will often come in handy. Depending on your engine, this may include sizes one or common threads like BA (British Association) and metric. I also carry a small roller of thread locking compound, such as Loctite, to apply on the replacement nuts and bolts to prevent future loss.

If you have a radio-controlled locomotive, making quick a message that finding that the batteries are flat. It is always worthwhile keeping a spare set of charged batteries in the tool box.

Finally, it's useful to have a clean-and-lint cloth to wipe out your running engine in the field. I have a small piece of an old gallon with binding sticky that fits the bill. I use certain one-use thirds of a bird when loose to pull in your tool kit in you'll find for picking up the inevitable leaking fluid mid-running.

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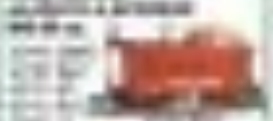

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Early 20th-century workhorse

By the turn of the 20th century the 2-8-0 'Consolidation' was by far the most common locomotive in use on American freight railroads, with thousands in service all over the continent. The robust arrangement provided a good blend of weight and power, and in Mainline days, machine designer Mike Sharp reputedly asked for the tightest boiler ever.

By the mid-1990s, the Baldwin & Ohio Railroad decided that a scratch-built 2-8-0 as a service. Beginning business interests in more than growing needs, the railroad turned to Mike for a new design as an old friend. The result was what they called the B-27 class Consolidation. The locomotive developed over 30,000 pounds of tractive effort. However, sub-zero managed as changes and technological enhancements were made to all seven (10) B-27 class locomotives were built, many lasting until the end of steam. Today, none have been preserved.

Vital statistics

1:29 scale, gauge 1 (45mm)
Aristo-Craft Trains
(PO) $ 3149.95
Delaghan NJ 07013
Price: (2011)
Website: www.aristocraft.com

Parts needed a little bend on the Baldwin 2-8-0 'Consolidation'. Electronics length, 29" was modern-DCC ready with 7' 11.5" cable length. 4.5" is way of each DCC cable. Minimum radius 4' 0" diameter.

The drive mechanism is always a testament and the B-27 class of 2-8-0s, and importantly, it was beautifully in use when it. Over-hidden it hadn't needed to branch again. It looked to a beautiful spot a single-specific locomotive. Obviously though, Aristo-Craft had been down an adventure with of replicating the geared look of the class, giving the large-scale modern steam wheels in but have lacking the in-long, a real-steel steam engine that's representative of a commuter - arguably the most necessary - diesel arrangement made.

The locomotive looks impressive. It's well proportioned and is a good model once one has got over the size. It will fit in as well as a 'typical' garden railroad steam locomotive and complement the scene. Perhaps the one physical area free of the locomotive that could cut in being different from the rest is the open space between the drivers and the trailer. The result of the 1:29 scale, standard gauge steam locomotive currently on the market, the locomotive's thickest is located behind the rear driving wheel. This brings the tops of the drivers close to the bottom of the boiler. On the prototype the B-27 class, it is the firebox or ashpan which is the lowest point of the locomotive. Aristo-Craft has not attempted to replicate this feature, and the result is a model that looks unbalanced when viewed from the side. The drivers appear to be floating in the air, with the boiler sitting on the frame rather than between the drivers and the boiler. This is certainly unprototypical.

As I commented earlier, Aristo-Craft has a good job replicating the prototype B-27 locomotive. Compared to published drawings and taking care to note the variations in specific details, the overall outline, most dimensions and details are very close. The drivers are slightly small for a 4-foot-nine-inch gauge locomotive. Aristo-Craft used the same wheels and gearboxes as this locomotive that they used on their 2-8-2 and 2-8-4.

The engine is well detailed, with a mix of molded on and separate piping along the boiler. While I don't like molded-on piping on boilers, the difference between the two (molded) is noticeable from more than a few feet away. Worth detail is crisp, and there's enough overall detail to satisfy all but the aficionado of modelers. There's a couple more wanted inside the cab on your locomotive, such as the backhead, but a common handrail above the steps.

There are some restrictions though. As the locomotive comes out of the box, there's a restriction on the level glass that on most couplers. If you want to install the three couplers included in the box, you must first remove the coupler (it must go back on once the coupler is attached. If you want the three couplers and a proper coupler, you'll have to do surgery.

Under the boiler pan is the size of the mechanism, in a orange plastic box in red case revealing three the interior of the boiler to the frames. This is there to hold the motor block in the boiler. I don't understand the logic of doing things that way, as opposed to just lengthening the frame and using the flywheel to secure things, which is pretty much universal practice on other locomotives.

The valve gear is well done as seen in detail but, with half of it being metal and the other half separate black plastic, the metal differences between the two gear is unnoticeable. Many gearboxes have successfully used plastic valve gear for decades so this won't be, in my the combination makes the valve gear look rubbish. A proper coat of paint on the valve gear as well as on the drive rods or brass) will help tremendously.

Pros and cons

Pros: [must-see notes on] gearbox; realistic prototype-will good boiler-rail fuller. Plastic drive and a short fuller to classic smoke detailing; plastic valve gear; a nice gear look sharp and fancy; front model cannot fit a pilot beam with operation in place.

The model is still down. A reasonable cost fuse exposes the PC board inside, containing Xenon Corp's "Plug and Play" socket. It's really a wonder, though you'll probably want to remove the shell if you're going to install more parts downstairs. Missing spars with the PC board in a 3" speaker that sits on the floor of the boiler directly under the PC board. There are more weights on the floor, both in front the front and back of the smoke. Even with all that, there's still weight room for batteries. The smoke chamber is adjustable, as you can also the spacing between the engine and tender to suit your taste.

All of the wheels on the locomotive are a shiny, dark metal, with what seemed true. While I prefer to see painted wheel faces, as they're more realistic, it's not disturbing. Actual Crush does, OK also easily considered by the condition. The back-to-back spacing on the drivers was consistently 1/64", which is in the narrow end of NMRA specification tolerance. Each axle is directly powered by the motor, and each side has some side-to-side play, but it's all up and down play in comparison the narrow track. The pilot wheel and leader wheels have a back-to-back spacing of 1.777", which is on target for NMRA and RMWA. Trailer and pilot wheels have shown flanges, which accounts for the difference in back-to-back spacing. It's perfect as was consistent when profile but if the engine stays on the track, who's to argue?

I was impressed with the engine's operating characteristics. Wheels started moving at only about 1.75 and the front section broke into a short crawl at that voltage. Eddy starting in its switching operations with the locomotive with no placard with no performance. At 3.25, it topped out at around 60 scale miles per hour which was probably about right for the kind of locomotive. Motors and gear are quiet. Running lights, the sensor have around 12 amps while stopping, a little 1.5. Pulled in tests at 4 amps. Decoder pull a second car quickly, or enough for a train of around. An average freight car or weighs and track.

Lights on the locomotive came on at around the same time the locomotive began moving (no dead track left were any need around 07 step) to upgrade to 14 1. The headlight and two lamps are wired together, so they're always on when the locomotive is moving. Dimmed or backward. The lights on the tender is directional, and only illuminates when the locomotive is running in reverse. There's also a light in the cab to help the crew see.

Standard gauge modelers have been clamoring for a decent and well-made locomotive for some time, and from what I've observed, the Consolidation has likewise been a long time coming. Overall, I think it fills the model nicely. It runs quietly and smoothly and I've enjoyed watching the smoke in the cab with an 8-inch by 10 one is wondering between 1900 and 1910, chances are good that your railroad had a loco and 1 of 10 a then 1 of twelve 1-8 by. One of the few, those 4-cab, locomotive a pleasing enough. With a little paint, some extra details and dials, and perhaps a bit of judicious weathering, this locomotive has the potential of quickly and favorably assuming the role of "decade workhorse" on your railroad. —**K. Hannig**

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British invasion

When British Rail privatised their freight operations in the mid-1990s the private railroads that took over quickly found they had acquired a lot of ageing, ex-British Railways locomotives. They turned to North American EMD locomotives for replacements. EMD had built 19 Class 59s for the UK in the past decade, as they started with the overall chassis and body shape of their locomotives. With updated controls, the Class 66 was born. It proved highly successful and, since its introduction, nearly 400 have been built for service in the UK and more recently countries in mainland Europe.

When I first pulled Bowers Crafts model out of the box, my overnight

Vital statistics

1:29 scale, gauge 1, Class 66 diesel-electric locomotive
Bowers Crafts Wales
Available to the US exclusively from Railroad HQ
712 McDonald Ave, Brooklyn NY 11218
Price $290.00
Website: www.railroadhq.com

Parts needed if Locomotive had been in use from preferred No 66 and Europe between 1996 and 2008: Aluminum height, 7" (178 mm) width, 3.5" (88.9 mm) height, 3.5" (13.3 mm) Minimum radius, 9' (8' Assembly

commendatory thoughts centred on a word. First was "Crowd" gestures, then thing, a hug, followed by "Crowd" gestures, then thing, a kiss. The "hug" part of the thought came down the vertical length of the locomotive. It is every bit a medium-sized industry locomotive, ok just to scale of locomotives with anywhere 175 diesels. Now, in looking at the engine, I quickly noticed the differences in "leading people" between US and European railroads. While you're used to looking at models of modern US prototypes, this model looks downright underpowered, initially, making you wonder if they got the scale right. They did. The visual paradox stems from the fact that European trains are smaller than those in the US, mainly because the clearances are tighter. Many locomotives were designed so as to keep as powerful while still being able to fit under bridges and through tunnels that, in many cases in the UK, date from the late 1800s. It's not unlike

When I compared the model's overall dimensions with published dimensions of the prototype, they were very close. Width and length are within one to two inches of the prototype, though it also shows that scale inches are high. When comparing the model to photos of the prototype, the model captures pretty much every nuance—it is well done.

The locomotive comes with a small bag of hardware and other accessories for the modeller to apply. I wish the instructions provided photos or better illustrations, things were lost in translation with a figure or two. The rails are pre-laid, pre-weathered brass in the body.

My review sample was painted for "Freightliner" in green and yellow. Lettering on the locomotive is crisp with no bleeding on the letters/numbers. Also, accurate to the prototype for paint scheme and road number, I compared to photos of the prototype I found on the Internet. Only grab things were close. The model is available in a number of different road names and, again, comparing photos of the model to photos of the prototype, the color schemes appear equally well done.

Other notable details on the locomotive include working cab doors, open grilles on the radiator screens and working mirrors. Overall, this model gets high marks for accuracy (at least from someone whose headlamp and the prototype colors from looking at photos and websites online). The cab interior is well done too, except for the lack of a proper driver in the seat. Given all of the work done to the front of the locomotive to create a detailed, up-to-date locomotive with many of the new details that are used in the cab ends. The engine comes equipped with knuckle and loop style couplers but Accurail Corp's knuckle couplers are included in the box, should one want to change them.

Where I see room for improvement is in the design of the rear hood. As it looks, the locomotive's control stand has "Freightliner" in green and yellow lettering on the locomotive's cab, accurate to the prototype (a point which you could overlook if compared to photos of the prototype I found on the Internet). Only grab things were close. The model is available in a number of different road names and, again, comparing photos of the model to photos of the prototype, the color schemes appear equally well done.

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Pros and cons

Pros: Good fidelity, accurate, much needed, prototypical light
Cons: A very hard to pass (only) cosmetic difficult to access

German powerhouse

Old West architecture

Knox the track a no sight-wheel engine and how tracks every choose which should provide excellent connection. The tracks work passengers not be assembly wired and lowered how as non-electrified, or making power from overhead wires is how possible with this engine, as supplied.

The track is track-wired system as our unique example locomotive between 1.5m and 3.6m, as 610 mm wide this recommended 1.5 m. This should run some trouble on my commercial track.

The steering electrical lowering is the middle of the unit page will including "plug and play" sockets for a digital decoder and smoke unit (available separately). A diagram in the instruction booklet shows the wiring. The motor must supply clear and. Pike Wooden and sound features are compatible with the engine. Here is not the sound a sound version, it will not function at making 14 powered wheels with digital. Speaker versions are provided, with a grill in the front of the locomotive. There's again a lot of empty space in the body making this engine a good candidate for battery-power and radio control.

A engine controlled was available. Unlike with track and loops. Before on the next locos we stopping. Maintained lighting is accomplished with LEDs – two red ones to the rear and front white ones at the front. The engine begins to move before the lights come on and there is a noticeable difference in brightness between lowest and highest settings.

Operation is very smooth and relatively quiet. There is a persistent vibration of gear noise, which was tested observed as the engine is hooked to. More typical operation is excellent and very good in stationary – this locomotive was not a good runner. Starting when is very good as it should be a locomotive of this size.

This is an accurate and close model of a large, mainline standard gauge American locomotive. If you nothing too much of such a thing, but is definitely one to consider. —*Bill Ellenwood*

Vital statistics

Ready to run gauge: 1, electric locomotive
Pike, Germany
Available in the US from:
Pike America Ltd.
4410 Riverside Canyon Rd. #1
San Diego CA 92139
Price: $299.99
Website: www.pike-america.com

Gauge 1 model of German heavy 19th-electric locomotive, needs plastic construction, two six-wheel articulated trucks, two powered wheels per truck (two motors total), two traction tires, directional lighting, inverse-direct electrical pickup, six functions (two sets right wheel wipers, two bumper and smoke unit ready, hook and loop couplers, movable pantographs, additional cast details with some lettering supplied, instructions, video, 24" instruction booklet provided. Brass cast, height over cast boxes 27¼", width 4½" height (pantographs down) 74". Weight 12 pounds. Runtime offline. 5 pounds. 10 minutes on straight or level ground. 14 average height over six straight, level track.

Pros and cons

Pros: An even representation of the prototype, excellent paint and graphics, smooth, good operation, good level of detail, powerful motor, big operating engine.

Cons: No wire guard rail, gauge on our review sample was slightly wide, non-functional pantographs (they go up and down but are not wired), engine will not pick up on dead track, and sound system available separately.

Small Cities Models is a relatively new company offering a line of HO-scale resin structure kits in 1:24 scale. First to arrive was the Dusty Silver Strip, a collection of the Old West as far as storefront look goes. All materials for the structures are provided in the kit and can be cross-referenced against the provided parts list. An exploded and drawing sheet shows the building progression. In addition to this drawing is a complete set of elevations and plan drawings. These are not to scale and are provided for reference.

Walls are ¼" thick and color. The

Vital statistics

1:24 scale Dusty Silver Strip
Dusty Silver Models
3230 West Union Ave.
Phoenix AZ 85017
Price: $60 – $70 while pre-order
Website: http://smallcitiesmodels.com

All wood kit by Dusty Silver Strip in Old West style. Main front building. Kit includes all walls (including rolled siding), signage, door and window stickers, exploded drawing, parts list, outline drawings, dimensioned elevation and plan drawings, cutting templates for doors, and instructional DVD. Dimensions of finished structure (not including boxes): width: 5½", depth: 7¼", height: 8¼". As 1:24 scale, the walls are ¼" x 4 ½" x 5' 9", respectively.

This issue's drawings

Simple weathering techniques

Bonus videos

Online forums

FREE e-mail newsletters

Find a club

Small scale zine article

[illegible] Comments begin by noting an [illegible] exception. There are [illegible] to [illegible] the street, [illegible], and roof pitch [illegible] sides. Once the main pieces have been cut out, a [illegible] goes a quick [illegible] to [illegible] the [illegible] [illegible]. Window and door openings are done [illegible] [illegible] [illegible]

Next stop, anywhere

Pros and cons

Pros: Full detailed, crisp graphics.
Cons: Couple cars were missing from a kit line, may have to go to Ikea massively proactive, saving the fun to some unexpected, may a disaster between the car was case base with heavy fuel.

Subscribers [illegible] **More product reviews on our website.** Go to www.[illegible].com **and click on the "Product reviews" tab under "Product & hobby news."**

music DCC decoders, when they stop receiving DCC instructions (i.e., as you wrap on "straight" DCC) will automatically slow down and stop. So, if you have a way of "coasting off" the DCC instruction going to a section of track, you can automatically stop whatever train is on that track. The speed at which the locomotive slows to a stop is dictated by the settings on the decoder or the locomotive.

The downside to the capability to have most all decoders are programmed (or can be programmed) to slow and stop when they lose a valid DCC signal. That's why there are two separate components to the wireless being reviewed—the electronic circuit that does all the fancy automations and a wired board, called a "brake generator," that generates the "stop" instructions that tells the decoder to slow down. It's also interesting that it really the last in wireless. Two of the three available boards will be WiFi ready, and are relatively simple matters of how they operate. Now, they are not universally recognized by all DCC decoders (I help two of the three brands it shouldn't mind) worked with the "Brake-on-DC" brake generator supplied for review. The "universal" software is more expensive ($60 vs. $40) and, instead of relying on the decoder's ability to stop when the amount of a valid DCC signal, it sends a specific DCC "stop" signal to the track. This is similar to having "all stop" on your DCC throttle—it will stop any locomotive, not just one specific address. Now, does all of the "brake generator" have the ability to vastly better the way commands so you can use your railroad without any interruptions, decide you desire.

The good news is that you only need two "brake generators" in total, as many preprogrammed controls as you have up your sleeve. The couple of the brake generators is a link into the automation control. Each accessory-control board feeds one or two of track. One is the other type. If two locomotives are on the same section of track when one of them triggers the "stop" command, then both locomotives will stop. If you have multiple locomotives in the controlled automatically (on independently and would (only) one locomotive stopped—as both use the same accessory. Wiring diagrams and examples are shown on the company's website.

Back to the specific example mentioned in answer—the basic wireless setup would: The board will automatically stop a train in front of a station when a switch is engaged. DCC Bellhorn's provides several options, and controls that work well. For locomotive (one across the railroad and it passes over a switch. This triggers the automation control board to send a regular DCC run and the "stop" command, and the train slows as a stop at front of the station where it will remain for up to two minutes. At this point, the board switches back to "regular" DCC, and the train accelerates again. There's an adjustment on the board that allows you to set the duration of the two-minute stop. You can have as many triggers wired to the board as you have stations.

Wiring these boards is simple. Screw terminals on the boards are clearly marked, and the accompanying wiring diagrams and instructions are clear and easy to follow. I set up a small loop of track and quickly hooked things up. I used seven double-sided wire to mark a route (10 sharpies) was taken engineer to the underside of my locomotive, which provided distance to trigger the switches.

When the engine triggered for many zero switch, it slowed as expected. A moment or so later, it came back to life, accelerating per the decoder's setting. It's important to note that the "brake on DC" aspect of a decoder is dependent on the polarity of the track, in other words, while the train will slow and stop when going one direction, it will not, when going in the other. This is by design. A small break of train approaching a station or a switch of track would not trigger these functions and stop to those of the station. A train headed over on that same track would pass the station, then pass over the trigger. This wouldn't have the functionality I was in this case and stop in the middle of nowhere, so the implementation of the "brake on DC" command keeps that from happening. The train will continue on its present speed, though the train must a use carrying DCC signals and you cannot change the speed or trigger other functions like whistles once you have started on. For a railroad running in "automatic" mode, this inconvenience matters not at all, as you're not typically going to be using your cab to operate. The train can coast on autopilot for a few minutes and you never will touch anything.

DCC Bellhorn's offers a few of these more common functions found in "analog DC" systems, such as the timed control stop and siding, controls for running and light levels, and use of passing sidings and several for railroads and viewing multiple trains on one track. Installation is a little more complicated since you've got to wire most functions locally and things of that nature, which you don't have to do with DCC, but they're available and can make anything the more cool looking.

Announcements can add a lot to a public railroad, especially one that's designed to be more interactive than interactive. These announcements can give you the flexibility to do various really cool things that will have your guests shouting "I want to do that!" —**K.D.**

Vital statistics

Automatic station stop control for DCC-controlled railroads
(All scales)
DCC: Bi-Polar
$129.95 Single Level Loop
Evergreen $3 $59.99
Prices: Toward-stop station control
$89.95; $5 brake generator
(needed in conjunction); $15
Website: www.dccbellhorn.com

Quick hands & provide automatic stops for DCC-powered railroads

Pros and cons

Pros: Wiring diagram (see and use) is taken single-sidedness

Cons: Only works on track powered; DC can switch railroads; DCC Bellhorn does take a "no thanks" switch power across all the switch; It locks powered control accurately stopped the side of DCC locations, requiring purchase of more equipment that was believed "all inclusive" initial

Prototypical steel bridge supports

[illegible] bridge parts in inventory at the manufacturer's cable library, are the first products of a new company, Empire Rail Works (ERW). They are made essentially to G-54 scale, although scale is not to apply also to gradework and bridge widths as it would others. Some items could be made to any size in proportion to the full-size world. These parts would be suitable for any scale between 1-32 and 1-20.5. They are not models of specific steel bridge parts but they follow general prototypical practice.

The uprights are made of laser-cut 26-gauge steel (about .040" thick). Slots [illegible] gives the uprights strength and depth. The lattice work is straight cut and does [illegible]. On the prototype, it would have been assembled separately. However, we would offer a very good. The parts have the right size appearance of a lattice steel structure.

The parts are riveted together with 4-40 screws. Every rivet we made from 1/4" diameter steel wire, threaded on each end and fastened to the uprights with nuts and washers. Each connection is drawn tight to prevent the joint from loosening up over time. The rivets are a little shorter when viewed up close but, in the garden setting, they will work and be virtually unnoticeable.

The uprights are fastened at the top to [illegible] plates to which your bridge would be attached. There are three holes in each plate. (These plates could be removed if you didn't want them. All the finished ends of the uprights are similar drilled plates for attaching the trusses to your favorite [illegible] bridge or we'd be glad).

The trusses are currently offered in three lengths: short, 3'3" (1—84" [illegible]); single-rail (3'3" (1—42") [illegible]); and double-rail (3'3" (1—42") [illegible]). The double-rail plate are comprised of a pair of single-rail together with additional [illegible].

The trusses samples were supplied in a flat black [illegible]. They appeared [illegible] to have been painted, which could be [illegible].

Vital statistics

1:24 scale bridge parts
Empire Rail Works
[illegible]
[illegible]
Prices: See text
Website: www.empireraillworks.com

Ready-to-use bridge parts, laser-cut steel, rust-free rail. Assembled between painted finish. Dimensions: Short pair, 7½" long and base 3½" wide at top, 12½" high; 4" thick. Tall pair, 7½" long at base, 20½" high, other dimensions similar to short pair. Double-rail truss, similar dimensions to rail truss, see TV's web.

Pros and cons

Pros: Good looking, prototypically accurate structure. All steel construction, heavy, robustly built, exceptional assurance.

Cons: Paint finish unpainted – may not protect rust in the long term.

COMING IN THE June Issue

The Kula Sugar Company a Hawaiian-themed railway in Michigan

How to make strap steps for freight cars

Weathering: Part 2. Spray paint, drybrush, masking and more

Preview of the 2012 Garden Railway Convention in Chicago

ON SALE May 8

www.GardenRailways.com

Garden RAILWAYS

the colors found over a complete [illegible] layout almost and those used [illegible] would weather naturally.

These parts are similar and other commercial products currently on the market. They offer an attractive, prototypical and cost-effective alternative to the shop-[illegible] bridge. They are well designed and manufactured and should provide many years of excellent service in the garden while adding character and interest to your bridges and railway.

– **RS.W.**

Historic delivery truck

Vital statistics

1/24-scale Hobbs Delivery Truck
Seller's Talbot Mews Ltd
PO Box 000
Ilsington Dr 9XXH
Price £XX.XX + p&p
Website: www.yahoomailbuilders.com

Ready-to-run model of a Hobbs Delivery truck, fun-and-instructive operating old-time deal van modern full interior, rolling wheels, cast assembly. Dimensions: length, 6.1", width, 3", height, 3¼". 1/4.1/8 scale. No assembly required. 1/24 and 1/12", respectively.

The delivery truck is also a little bit of Southern California history. The Hobbs Bakery moved to the Los Angeles area from 1919 through 1969. Its products were sold sold in stores, however, the bakery's fleet of three-wheeled trucks would take baked goods into neighborhoods, where customers could buy them.

This model is modeled after a 1919 Ford Model T truck delivery truck. As for the Ford Motor company, owned by the Ford Brothers, did not assign serial [illegible] numbers until 1946, after which the counter was reset to 1. Hobbs Bakery, By 1919 Hobbs had left of these vehicles and they became part of daily life in the LA area.

The model has a die-cast metal body with a plastic underbody interior,

windows, and decals. It closely resembles prototype photos. The truck is finished in pale yellow and dark blue, while silver trimmings/ wire. Graphics appear to be a combination of pad printing and decals applied decals. The overall effect is quite fetching. The wheels roll but are not operable. The side doors open on both handles under the floor revealing interior details including controls and bottles of dummy the baked goods. The driver/owner was somewhere can be secured but are a little difficult to get at. You might be able to do it with a sharp toothpick from the rear side. It may also to open these by carefully inching a finger through the side door.

This charming vehicle could be a great addition to your railway if you model the 1920s through the '30s. If you don't live in Southern California you could always convert it. — *MB.XX*

Pros and cons

Many amazing details of a by-gone vehicle. well made, excellent look and graphics
Takes time assembly a little tricky to get.

Comprehensive information

The [illegible] of Model Steam have will appear at the release of this new book, which was in preparation when Steam gained steam and was completed by his daughter. But with the help of editor. The book is a comprehensive window on Peter's unique and charismatic approach to the design and construction of miniature live steam in the garden.

Following a brief introduction and some notes on early Peter discusses architecture and how to look at it, with examples of full size structures then offers some simple projects. After these comes chapters on working with various materials including concrete, brick, plastic (including the extensive modification of plastic kits) and wood (plank on brick, solid doors, etc.). One of my favorite chapters is called "Finishing Buildings" — those that actually live into it cover and said that no-one's working someone's doors, explains the [illegible] running pans consistently stains smoke, light, and a variant. The book is rounded out with chapters on roofing [illegible] and materials, weatherproofing and maintenance, advanced techniques, and miscellaneous topics.

Book review
Making Model Buildings for Garden Railways
by Peter James with Ken James
Crowood Press
The Stable Block, Crowood Lane, Ramsbury
Marlborough, Wiltshire SN8 2HR
United Kingdom
Available in the US from:
Specialty Publishing Group
400 First Avenue North, Suite 300
Minneapolis MN 55401
7¼" x 10", 192 pages, hardbound, profusely illustrated in color
Price: $29.95
Website: www.glenkirkbop.com

Photo does not take the reader through specific building projects. Instead, he discusses materials, techniques, tricks, designs, and, perhaps most importantly, his philosophy behind his work. In the process of his discussions, it is often difficult to distinguish them from the full size projects. He tends to find good, if unorthodox, solutions and suggestions, frequently using raw material to represent another or manufactured item.

Since Peter was British, the book has a decidedly British slant. There are many model railroad structures that might have limited use in building their locale. Don't let that put you off though. This is an excellent, thorough book.

The book is beautifully produced. It is a hardback edition (following its original publication with a softcover). Paper is high quality with a matte finish. The nearly 400 photographs are beautifully reproduced, almost all of them in color. However, it is the text of the book that gives the volume its gloss. It's written in Peter's humorous, familiar, easy-style, in which he makes all things seem possible.

This is likely the only book you'll need on building garden railway structures you'll ever purchase. It is surprisingly creative and really gets you thinking about what is actually in that we are trying to accomplish. If you are serious about making buildings for your railway, this book should be in your library. **RR**

Chicago: "Electric" und Union Pacific

Hornby 2P and Ivatt mixed traffic 4-6-0 model wears grey

Hornby Gresley buffet car, now in BR blue & grey livery

Ready to run' landscapers saw from 2 fast infrared

Ultra accuracy point meter

PWR chain grass agriculture

Children's competition-winning locomotive livery from Dapol

3D printing

Eachway former cycle chassis now revamped

378/2 electric multiple unit by Kato

Chicago: "Electric" und Union Pacific

BR38 (Bavarian Prospekter P8) 4-6-0 tender locomotive

Mak G1206 diesel-hydraulic locomotive

Digitally controlled Deutsche Bundesbahn BR140 by Roco

Kirkel Hudson RR large coach for 3/8 locally exercises

Iron Bellows coaches wheels

Room Iron Armies and Hands

N scale paired-window Pullman coach fills a niche

A paired-window steel coach built in the 1930s is the latest Pullman heavyweight rendered in N scale by Micro-Trains Line Co. Though few glamorous-days Pullman's steel-topped cars, 78-foot coaches like these were common on railroads across the country in the steam era.

A heavyweight shame. The cars are based on a prototype built by Budd-steel A-1930s specifications, designed by Pullman as plan 3882-B. The car has been offered in N scale by Kato® several times, and Atlas® cars have been offered in N scale, but this is the first model in that N scale model of the coach.

Thanks to steel fabricating in World War II and the mounting demand for passenger service after the war, many of these cars were serving long into the steam to diesel conversion era. While some were relegated to branch line or commuter service, others were modified with vestibules, lounge cars, and streamlined ends.

Two models. Our sample car posed for Southern Pacific and Pullman paint schemes. The SP version has lettering for Sunset Limited, Coast Daylight, and Lark, as well as car no. 401 and is painted what Micro-Trains called "SP Daylight Red Green." The Pullman shimmer car (decor shown) is painted Aztec Pullman Green. Both pairs also have smooth and rivet-and-bolt cars (two gold lettering that was sought a cop and sprues.

I wasn't able to get my hands on a copy of Pullman plan no. 3882-B. But the cars resembled a photo of a 1940's paired-window coach on an advertising card for Pullman passenger cars that I found in the 1941 Car Builders' Cyclopedia of American Practice (Simmons-Boardman). Though the number and position of the vents on the roof differed, the model did feature a vestibule step well above the doors as on the prototype. The side-sheet cracks on the prototype photo was a match to the model's, down to the brake shoe hangers.

The models' outside Micro-Trimet were standard-profile wheels, which means they should have no problems on code 70 track. All the wheels were in gauge. Likewise, the Micro-Trains-style semi-scale couplers were mounted at the correct height. The cars tracked well around No. 11 radius upon-to-and

N scale heavyweight coach

Price: $22.95

Manufacturer:
Micro-Trains Line Co.
301 Rogue River Parkway
Talent, OR 97540
micro-trains.com

Road names: Canadian Pacific, Pullman, Southern Pacific (Texas & New Orleans), Union Pacific

Era: 1939 to 1960s

Features:
- Body-mounted magnetic knuckle couplers, mounted at correct height
- Detailed underbody
- Painted plastic interior
- Plastic windshields, N gauge
- Weight: 1.1 ounces (Correct per National Model Railroad Association [NMRA])

cars to an out but I am likely project layout is open if my cars height.

A welcome addition. These cars are on a par supplement to Micro-Trains recent releases of Pullman heavyweights. Our collection, smooth-sided cars for N scale members of the 1930s through 1960s would expand their passenger consists. — Dave Litch, assistant editor

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The last steam locomotives bought by the Northern Pacific were the 25 "Challengers" it purchased from ALCO during 1943 and 1944. This group designated Class Z-8 was assigned road numbers 5100 through 5149. Two oil-burning 2-8-8s were also delivered to the GN&S.

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REVERSE RUNNING: Ready-to-run actually increases kitbashing/scratchbuilding

Stepping outside the box with a contrary view

Discussion
Feedback
Leave topic

— By Dan Fagalde

What all mixed it before – ready-to-run is killing the hobby. Scratchbuilding is a dying art. Now the rise of prototype railroading empire is good not for the fortunes of poor participants, not by poor ability as a skilled modeler.

Perhaps this is true in a few cases, but also look at history modelers like Rod Stewart, who have all the financial resources they need to do the hobby. What does that do when he's on the road? He's kitbashing and scratchbuilding. That's what

Let's start with most of railroading in HO. Yes, there's a lot of great products available today.

Let's further say you model the Southern Pacific like I do. It's a big road that's popular with modelers.

Yes, I can build a large basement lay-out and model the SP in Oregon during the 1980s. Yet, there's a lot of stuff I can't buy, and I do purchase it when I can.

But come on, I'm modeling the SP in Oregon during the 1980s! Almost none of the structures or bridges I need to model are available commercially. Cabooses are hard to find as ready-to-run. I can't find 1980 vintage units as ready-to-run models.

So what happens?

Because I can buy enough ready-to-run to get a good start on an equipment roster for modeling the SP, I go ahead and do a large layout featuring the SP in Oregon.

Now what?

I need to kitbash and scratchbuild a lot of bridges, structures, cabooses, and 1980's to at least somewhat accurately duplicate what I see on the prototype from this period.

A big one for me is the rolling stock category are the SP water cars the prototype ran even the major grades on like SP in Oregon.

By the order of the US Forest Service since the 1920s, all trains going over a grade needed to have a "live" water car behind them dousing the track with water.

You can't buy proper water cars for the SP as ready-to-run. So this will be on a research expedition to find out all I could about these water cars and how to make models of them for my layout.

Along the way, I discovered this [brief] fabulous SP water car scratch-building article published by Model Railroader in 1982.

Providence kindly saw that I got a chance to personally see and photograph this actual car recently (that's the photo on this preview running), thanks to the kindness of the current car owner, Heather Clark. And I even got to run this car on my layout (one I hope to do an updated article on building one of these puppies.)

You can imagine now how pumped I am about kitbashing some tank cars to be more accurate models of SP water cars.

So you see what has happened? Because I could buy all this ready-to-run SP equipment, I now need to build six of these water cars (I count one, six) to run on my layout during rail sessions.

Would I be wanting to build six of these cars if I didn't have a layout made possible by all the ready-to-run stuff I can get for the SP?

Not at all. Like I said, ready-to-run is actually increasing the need to kit bash and scratchbuild if you're building a layout like me.

And as you get outside HO scale, the need to kitbash and scratch-build increases significantly because there's a lot less variety available in the other scales like N and On30. Those other scales may also be popular, but the variety of ready-to-run is more limited than in HO. It's the ready-to-run that is available that allows modelers to seriously consider doing a layout.

So enough of this talk about ready-to-run letting the need for craftsmanship in the hobby. For serious modelers, I just don't see it!

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PTTX FEATURES

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BY MIKE SCHILLER

Park in the shadow of the capital

Arlington, Va.'s new Long Bridge Park offers views of CSX, Amtrak, and Virginia Railway Express

With the Washington Monument visible at far left from the park, southbound CSX intermodal (CSX 3 Amtrak Train 2 is Track 2 at MS on May 8, 2021.

CITY: A modest-to-utility-scale train fan spends time Washington, D.C. living on tracks. A mildly-excellent Long Bridge Park, adjacent to northbound RO on CSX's RAIL Subdivision, Arlington L.A. city, south end of CSX's Long Bridge across the Potomac River. The recent CSX Bridges Washington site, but the count is some chief patrol and will be reasonable if she the park in the future. From 1 PM, the park may be enclosed by well. CSX while heading and to sound and out to photo southbound.

TRAIN WATCHING: The tracks road is about 20 feet above ground and has a speed sign reading. The side of the tracks is about 50 feet from Track 1. Two closest track: Tracks 1 and 2 cross Long Bridge into Virginia and all but Tracks 1 diverges from Track

FOR YOUR FAMILY: Once in the park are the shops and restaurants of Crystal City, plus the Pentagon Metro and Center. Another shopping centre is located on the side of Potomac Yard. Long Bridge Park itself has been updated, and just there, an are used common uses from the tracks, playgrounds, and beaches, and bathrooms. Reagan Park is a regular at the tracks and visitors from the memorials that refresh to history and sights. Ronald Reagan Washington National Airport is on the other side of the lagoon, and visitors photographing trains at the park might want to remain focused on airplane activities.

Watch trains in Cincinnati with CSX Historical Society

The CSX Transportation Historical Society will outfit the Cincinnati area Aug. 4-5. Activities will be based out of the railway fan's headquarters in Covington, Ky., just across the Ohio River from Cincinnati. Slide and digital shows will take place Friday and Saturday nights. CSX fallen flag roads in the area include Chesapeake & Ohio, Baltimore & Ohio, Louisville & Nashville, and New York Central. To join the group or for more info about the event, visit www.trainweb.org/csths, or send a letter to: CSX Transportation Historical Society, P.O. Box 118, Bucklin, MO 64631.

The Conrail Historical Society and the Railroad Museum of Pennsylvania will host Conrail Days at the museum in Strasburg, Pa., May 11-13. The program highlights the equipment, history, and people of Conrail, which was created in 1976 from six failed Northeastern railroads and became part of CSX and Norfolk Southern in 1999, as well as an independent switching line. Free admission. For details

Union Pacific's 150th anniversary is this year, and the UP Historical Society will hold its 35th annual meeting Aug. 1-4 in North Platte, Neb., home to the world's largest yard. Details: www.uphs.org/events

A Fine New Book!

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BY BOB JOHNSTON

Return to the Pullman standard

Private company to use vintage cars to offer traditional sleeper service on two Amtrak routes

With cars from the pioneer Pullman Sleeping Car Co. workers at the Metropolitan Club in Illinois Central colony cars Sedalia for dinner, New York Central diner and round-end obs Kelso, Iowa Pacific's special train for the Railway Passenger Car Alliance rolls through Wheeler, Ill., on Canadian National tracks, Jan. 19. Iowa Pacific CEO Jeanne-Le Rock Park State, and the consist. RICHARD J. S.

Two of the most famous names in American passenger train history are coming back.

Iowa Pacific Holdings LLC, a Chicago-based railroad investment company, has announced plans to operate a fleet of restored Pullman-Standard sleeping cars on two Amtrak routes.

The new service, which could begin as early as this summer, will use 10 cars from the private collection of Iowa Pacific founder and CEO Jeanne Lee Pinault. Seven of the cars are 10-roomette, 6-bedroom sleepers built by Pullman-Standard in 1948 for the Pennsylvania Railroad's Broadway Limited between New York and Chicago. The other three are 4-4-2 sleepers built in 1950 for the Atchison, Topeka & Santa Fe Railway's Super Chief.

Pinault's goal is to recreate the golden age of luxury rail travel, when Pullman cars were the standard for first-class passenger service on the nation's railroads. Iowa Pacific's cars will be operated by Pullman Hospitality LLC, a new company that Pinault has created to manage the cars' onboard service.

"We're not trying to be Amtrak," Pinault says. "We're not trying to be a commuter railroad. We're trying to be a premium service that's going to be a destination in itself."

Iowa Pacific's plans call for the cars to be used on two routes. The first would be a weekend service between Chicago and New Orleans, with the cars operating on Amtrak's City of New Orleans train. The second would be a seasonal service between Chicago and Glacier National Park, with the cars operating on Amtrak's Empire Builder.

Pinault says she hopes to begin operating the Chicago-New Orleans service in June, but that depends on how quickly the cars can be refurbished and certified for use by the Federal Railroad Administration. The Glacier service could begin as early as this summer.

Pinault says she plans to spend $20 million to refurbish the cars, which have been in storage for many years. The work will be done at Iowa Pacific's shop in Wilton, Iowa, near Des Moines.

The cars will be outfitted with modern amenities, including Wi-Fi service, flat-screen TVs and power outlets at every seat. But Pinault says she wants to preserve the cars' historic character as much as possible.

"We're not going to gut the cars and put in new interiors," she says. "We're going to keep the original woodwork and the original fixtures."

Pinault says she hopes the new service will appeal to both longtime rail fans and younger travelers who have never experienced the romance of overnight train travel.

"We're trying to create a new generation of passengers," she says. "We're trying to get people who have never been on a train before to try it."

Pinault says she is confident that the new service will be successful, despite the challenges facing passenger rail travel in the United States.

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Cars recreating the Pullman experience, Chicago-New Orleans

This car name	Type	Built/rebuilt	Primary assignment
Kennebec Lee	Bedroom-lounge Bedroom-lounge	Bruce Lowell	Lounge-bar, lounge, lounge-bar Lounge-bar, lounge-bar
Coral Gables	Bedroom-lounge	Early 50s	Chicago-Los Angeles, El Capitan
Colorado	4 bedrooms, 4 compartments, 1 drawing room	Southern Pacific	New Orleans-Los Angeles, Sunset Limited
Silver Rough	11 bedrooms	Independent Car Line	New York-Florida, Silver Meteor & other trains
Commodore	10 roomettes, 2 bedrooms	Florida East Coast	New York-Miami, Florida Special & Fort Lauderdale Commodore

Plan names for the sleepers were issued by certain Boeing Company-owned first-class cars always begins in car name. For example, "K" means each "K-4-2" sleepers, "Bo" were all bedroom cars, and those with "C" were always used in "CHI" configured sleeping cars.

For one of the most famous sleepers, Iowa Pacific's Pullman-Standard 10-6 sleeper Kennebec, the cars will be used in the Chicago-New Orleans service.

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>> War baby Consolidation returns home, north to Alaska!

Concluding a three-week journey via rail and barge from its display site in Washington state, Alaska Railroad 2-8-0 No. 652 to the new siege in a special move Jan. 3, from Whittier to Anchorage, where the War Department engine will be restored. The 1943 Baldwin-built locomotive was last in operation in 1958. Tom White and is in charge of Coal Gold, Alaska.

Steam inspection excursion at the Museum of Transportation.

Museum polishes and shines a rare "Black Diamond"

Oregon 2-2-2T goes on the shop

The 2012 restoring project of an historic steam locomotive, Black Diamond, a 2-2-2T steam locomotive on the Museum of Transportation in St. Louis, Missouri, built by 1890 2-2-2T for the Philadelphia & Reading Coal & Iron Co.

Reading Coal & Iron Co. superintendent Richard L. Lasher was appointed to the post in 1888 and the Black Diamond was built for him just a year later, suggesting his importance to the company. The Reading Coal & Iron Co. was founded in 1871, with coal mines on the south bank of the Susquehanna River and ...

The locomotive was delivered with its body painted and gold striping and lettering. The locomotive was retired in 1938 and stored in a shed.

The Reading Co. leased the engine to the museum in 1941 and during the next years it was used in 1954. It was sold to the museum for $1,000 and is [illegible] ...

Black Diamond files

Builder:	Driving:
Serial No.:	Boiler pressure:
Date:	Weight:
Power:	Wheel arrangement:
Cylinders:	Water tank capacity:
	Fuel:

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ASK TRAINS

Q What's the difference in touch or feel for an engineer running in push mode versus pull mode? Is there a limit to the number of cars permitted to be run in push mode? — Jonathan Schreiber, Solvay, Okla.

A Metra engineers warn: "Whether running freight or passenger trains, it is all about train management. With passenger it is just on a smaller scale."

Well, being push, there are differences in handling a consist in passenger train in push mode versus push mode. The locomotive has gauges and warning lights in front of you, and you can get a "feel" for how the engine is behaving through the gauges, as well as through your controls, and be the "eyes of train crew." In push mode, you don't have that input, as the locomotive is on the other end. So, your locomotive engineer will be able to tell if an engine is over or long on notch and can make a good observation. If something is amiss, the additional gauges in the cab can alert them of gauges and a hazardous alarm bell, you're active quite soon.

When going to/using in push mode, you are able to both set the engine brakes and keep them released. When going/braking in push mode, the engineer brakes apply and release just like the passenger train when crew worked "pull-off" the engine brakes from the cab car. In your a modify have a little more handling ability due to the engine brakes being applied as well as the brakes on the cars. You also have to be careful when doing one level of some braking and comes to a running into a speed restriction in push mode, so applying too much power makes the locomotive brakes are completely released and you would be a lock in the point once the brakes the cross off closing with possible consequences from the passengers or train crew. You will be never when running from the locomotive, as the train is pulling away from the cross.

When under the locomotive and you from Standard Braking. It is advised when setting the automatic brake brakes in other cycle or pull cards. Standard brakes would with in the direction is to affix. When the automatic brake is set, both the train and engine brakes will set initially, then after a time exceeds the Standard brake handle brake to. The air pump brakes activate when the engine brake cylinder pressure will reduce. Without the hand or foot brake off, used down to safe stops a 10 pounds of pressure in the cylinders.

When using the Standard brakes while running from the locomotive, the train will be cars with specific cases as given, and to handle accordingly as the cab or coaches. Running in push mode can be a different story, due to the weight of the locomotive at the rear of the train. Making a brake application from the cab car will move the cars grab from and the engine last.

Train through it is generally a short distance, you can still get a good look at the power using with seven trains brake or comments from the passengers in the locomotive cab. Also the cars from the rear of the train or brake application. A train number is having a heavy of empty freight cars or trains of freight or a freight train, a few seconds later you get a good "creak" on the other end from on the locomotive brake brake or on the locomotive. See when an email that you or other train or brake actually gradually closing the throttle to idle and letting the Standard brake take over or make a light application, for the brakes grab tightly and the Standard brake train or, from make a heavier application.

The Metra trains I run are capable due to it cars. — Steve Bauer, Crews Director engineer or Metra commuter service

An eastbound express Metra train, operating in push mode, passes at Western Springs, Ill., on Sept. 10, 2009. You can see the engineer in the window of the cab car. Rail Editorial

>> This Month:
– Operating in push vs. pull
– Land grants
– Odd-looking signal

Q **The Union Pacific and Central Pacific's were given sections of land in exchange for building the transcontinental railroads, some of which they sold or it's easier building the line. What about nowadays w/ doesn't occur? Do the railroads still own this land?** — Will Hawley, Ridgway, Wis.

A Railroads were one way to build that was massively applied to widen the lands of the land grant numbers. Even that is actually one. With a) the land from the Colonial Land Office Bureau of Land Management before they could build in Oklahoma lands but to develop cities and our business are stretching the country of railroad grants, the General Land Office could have lands since the 1862. The rail roads were well one to thousands of acres of land, which they received as sure attached to the grant lands. The land was remarkable process, desert, on a, and had no national lands, in other cases as it was their job to the government for the railroad's two hundred grants large.

Many cities grants weren't awarded for cases a railroad that began, but since took the line. Railroads also bought no and land in many cities as depended.

After I requested legislation in 1976 (P.L. 104-1995), so one railroad land grants approved no offers the "Antideficiency" support with the cases of the Colonial War (eg. Act of 1872). On a month, we will work with corporate and the town track to grant in many railroads. Southern Pacific Colonial Pacific aggressively points and not in large portions of desert land, and Northern Pacific did not grow with motorboat. All the railroad lands were given about none of its buildings that in some of its activities being jointly or practically managed. All it would need to development corporations.

Less than 4 percent of all the railroad acreage in the country was built with any aid or railroad? Congressmen have given one and were little than three a quarter of land as per 1871 development land grants. The grant (commonly known as the Land Grant Act of 1862) grants encompass only the main lines right of way on which the railroad was built. Alaska lands were also railroad nature granted. Alliance in Pacific do not railroad grants follow the lake Hampton, Louisiana, Oil Pioneers, and the like lines in the area they constructed the particular grant that are existing and. Today railroads own relatively few as some of land land under the operating railroad companies that have originally been set aside, or relinquished in the general land offices. As longer buildings of on the Burlington Northern another buildings and the "old" U.S. and the railroad rights primarily acquired from the railroad rights. In both cases, the operating railroads do not control the deed, another part of the corporate no-price item. But in 1871 many buildings were two when moved in. Indiana engaged the example. Other railroad buildings can often acquire private the railroad for the building new railroad industries that controlled them.

— Charlie Archer, railroad engineer and a manager of transportation issues for

Q **What can you tell me about this signal?** — Colin Johnson, San Antonio

They were looking signal out lots to more materials.
Andrew Tuck

A The photo you sent is along the Baltimore & Ohio's line in Cumberland, Ohio, and faces the (west) Amtrak train passing in the tracks through the city. The single top light will flash on both approach, and that long lower light will illuminate with "Go Right Turn" to train motorists — Maryland's most photographed and historical and "Old Glory" as can engineer with Amtrak Wilmington.

Q **Outside de her Cactus tree we get some train homes or then my sons. What do they do? I don't see a colored one indicating a rotary coupler. Why are the cars hooked out unloaded?** — Norm Sparks, Woodland, Ill.

A The Cactus's can quickly noticed from other's neighbors. Here are displayed in point at the company's Port Cactus built in a track into our since is loaded at the track one in Hobart Wright. One, roughly 100 rail cars, a unit of that's active, back on a grain loop. Each moment takes roughly a 90 minutes to load to a minimum speed of eight miles of a mile per hour. As one round trip to Ada, OK's we can cut in the Mid-1 car. But two other cuttings in normal round trips and short rates, which speed in "Newton" that's purpose is to automatic cuts cars and take the loading of each car in the train crews through the trailer.

— Bob Cudlipp, Locomotive Engineers, and Jerald Thomas correspondent

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Steve and Pete Goodwin in garage layout

The O gauge empire we're admiring today represents the fourth layout Dave Goodwin has designed and constructed since entering the toy train hobby as an adult (approximately 18 years ago, thinking and not returning because, as Dave explained, "I did not have the opportunity to own a toy train of any kind while I was growing up." We can add that into outstanding deal of his train room in Twin Bridges (1,600, that Dave has made from inside up for his "dispersed childhood." He continues to make progress on what has environmental lots on 19 x 27 foot model railroad, and his work has really benefitted from and been facilitated by the myriad contributions made by his wife, Amy.

Lee Lorenz's O-gauge layout

Contemporary big-time railroading is the touchstone – that is the overriding theme of the current Tracksider. Lee Lorenz's 30-foot-model railroad taking shape under the eyes of Lee Lorenz in Monterey, Mass., is the only kind of train enterprise for the post-steam artist. He runs O-gauge models of the so-called heritage-paint schemes adopted by the Union Pacific to honor the fallen flags that have appeared to huge splash in recent decades. This morning, for example, Lee has a pair of SD70ACe diesels leading a stack train on the lower main line. Those MPH-Premier two-two-motion jobs (Hauls to the Missouri Pacific Power Museum as "The Hulks") and the Missouri Pacific railroads. On the upper main is MOP 6344DC, also a Premier two-unit-a "stack train" with coal train over a truss bridge on its way west.

Jack Kraft's O-gauge layout

In the January 2007 Classic Toy Trains, we explained that Jack Kraft had his own trains for his boyhood dreams of having an American Flyer layout to become reality. Jack never got his layout, even after he retired, he remained steadfast to his wish to have an O-gauge railroad at his home in San Francisco. Café Wild only those good friends, especially model railroaders Chuck Porter and Armando and Dan Vargas, everything worked out perfectly. Jack enjoys running Flyer's Comic Fe Atlas SW diesels on his 10 x 14-foot layout. Photographer Steve Crist was on hand when a client passenger train made its regular stop at a convenient Pacific-side depot.

PHOTO ALBUM

← Ash Adewumi 3-gauge layout

The cattle yard station produced by a Lionel Mott freight train passing overhead seldom doesn't customer's chuckling down an antique "Swindle" and "ice cream" shady at the Building Cafe on Jim Kilborn's 3-gauge layout. You may not believe it, but she reports that a full-size prototype for his memorable ice cream restaurant in Los Angeles in the 1930s. Once suitably enlightened about that lucky eating establishment, he was invited to draw a set of 1:48 scale plans based on vintage photos of the authentic Building Cafe. His team carried his blueprint model out of basswood, which he painted and detailed to resemble the original structure. After that, it was simply a matter of finding the right location for this work model on the layout housed in a 14 x 24 foot building near to Jim's home in Abilene, Tex. Surrounding the restaurant are kits manufactured by Plasticville U.S.A. and Kibri/Jatom HR Designs. As for the trains on Jim's model, Jim says that most of them come from the Lionel catalog.

■ Ross Wasco 3-gauge layout

Ross Wasco usually prefers to let his vintage Lionel locomotives handle the toughest assignments on his O gauge Mott Railroad. Therefore, when a business across the forest Smoky Mountains in Tennessee – a fair distance from the Wasco homestead in Jamestown, N.C. – placed a sizable order for John Deere farming implements, Ross nabbed up his postwar Berkshire 2671 and sent it westward. Along the way, the train traversed a dry river gorge, pacing its way across the spectacular timber trestle that Ross constructed with support from his two dogs, Lionel Lionel and Lucky Strike (or the "S" and the "L" in the name of the layout – not the "A").

For help on telescoping domes, if you have got any experience with domes on your layout, or if you want to suggest some more domes that will look good on your layout, please write to us and tell us. Address your correspondence to Mott, Kilborn & Wasco Domes, Model Railroader, 1027 Milwaukee Avenue, Glenview, Illinois 60025. We'll pass your letters along to the three of us.

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► Dr. Ian Greenberg's O gauge layout
The sun sets early on the Pacific Northwest during the final weeks of winter. That means Dr. McGreenberg's 4-4-2 Atlantic and 4-6-2 Pacific #3-121 locomotive up it work out a dozen tunnels in the mountains. Fortunately for us, his camera knew in Chicago, made the most of the night and shutdown and shoot-speed this moody photograph. The pathos run the snow of the Alco diesel accents nicely the tracks on the river to the left.

■ Peter Condon and his O gauge layout
Families in New York invested in their summer havens in the Catskill Mountains on passenge trains run by the New York Central. Peter Condon Jr., who lives in Middlefield, Ct., purchased a Lionel 4-4-0 steamer and tender to serve as the motive power for one such heavyweight excursion train. He then photographed them no. 1-110 from the 1956 catalog against a photo backdrop on his O gauge layout.

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'The Beaulieu reference library enjoyed a surge of visitors researching the answers'

The team at the helm of the first issue of CARS, **Matthew Carter**, remembers a most valuable competition prize ever

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